Methodology

Rating Companies in the Airline Industry

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All DBRS ratings and research are available in hard-copy format and electronically on Bloomberg and at DBRS.com, our lead delivery tool for organized, Web-based, up-to-the-minute information. We remain committed to continuously refining our expertise in the analysis of credit quality and are dedicated to maintaining objective and credible opinions within the global financial marketplace.
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Introduction to DBRS Methodologies

• DBRS publishes rating methodologies to give issuers and investors insight into the rationale behind DBRS's rating opinions.
• In general terms, DBRS ratings are opinions that reflect the creditworthiness of an issuer, a security or an obligation. DBRS ratings assess an issuer’s ability to make timely payments on outstanding obligations (whether principal, interest, preferred share dividends or distributions) with respect to the terms of an obligation. In some cases (e.g., non-investment grade corporate issuers), DBRS ratings may also address recovery prospects for a specific instrument given the assumption of an issuer default.
• DBRS rating methodologies include consideration of historical and expected business and financial risk factors as well as industry-specific issues, regional nuances and other subjective factors and intangible considerations. Our approach incorporates a combination of both quantitative and qualitative factors.
• The considerations outlined in DBRS methodologies are not exhaustive and the relative importance of any specific consideration can vary by issuer. In certain cases, a major strength can compensate for a weakness and, conversely, a single weakness can override major strengths of the issuer in other areas. DBRS may use, and appropriately weight, several methodologies when rating issuers that are involved in multiple business lines.
• DBRS operates with a stable rating philosophy; in other words, DBRS strives to factor the impact of a cyclical economic environment into its ratings wherever possible, which minimizes rating changes due to economic cycles. Rating revisions do occur, however, when more structural changes, either positive or negative, have occurred, or appear likely to occur in the near future.
• DBRS also publishes criteria which are an important part of the rating process. Criteria typically cover areas that apply to more than one industry. Both methodologies and criteria are publicly available on the DBRS website and many criteria are listed below under “Rating the Specific Instrument and Other Criteria.”
Overview of the DBRS Rating Process

- There are generally three components to the DBRS corporate rating process: (1) an industry risk rating (IRR); (2) an issuer rating; and (3) considerations for specific securities. The figure below outlines this process.
- An IRR is a relative ranking of most industries that have a DBRS methodology, typically using just three ranges of the DBRS long-term debt rating scale (i.e., “A,” BBB and BB), without making use of the “high” or “low” descriptors. The IRR is a general indication of credit risk in an industry and considers, among other things, an industry’s: (1) profitability and cash flow; (2) competitive landscape; (3) stability; (4) regulation; and (5) other factors. An “industry,” for the purposes of the IRR, is defined as those firms that are generally the larger, more established firms within the countries where the majority of DBRS’s rated issuers are based; this remains true for DBRS methodologies that are more global in nature. The industry risk rating helps DBRS set the business risk rating (BRR) grid (see below) in that it positions, in an approximate way, an average firm in the industry onto the BRR grid. For firms in industries with low IRRs, the IRR can, in effect, act as a constraint or “cap” on the issuer’s rating.
- The issuer rating is DBRS’s assessment of the probability of default of a specific issuer. It is a function of: (1) the BRR, determined by assessing each of the primary and (where relevant) additional BRR factors in the BRR grid for a specific issuer; and (2) the financial risk rating (FRR), determined by assessing each of the primary and (where relevant) additional FRR metrics. The two components, BRR and FRR, are combined to determine the issuer rating; in most cases the BRR will have greater weight than the FRR in determining the issuer rating. Throughout the BRR and FRR determination process, DBRS performs a consistency check of the issuer on these factors against the issuer’s peers in the same industry.
- The issuer rating is then used as a basis for specific instrument ratings. DBRS assigns, for example, a recovery rating and notches up or down from the issuer rating to determine a specific instrument rating for instruments of non-investment grade corporate issuers. (See “Rating the Specific Instrument and Other Criteria”)

DBRS Rating Analysis Process

![Diagram of DBRS Rating Analysis Process]

*Depending on the instrument, “other criteria” may include the recovery methodology for non-investment grade issuers or the preferred share and hybrid criteria, for example. Please refer to the section below entitled “Rating the Specific Instrument and Other Criteria” for a list of these criteria, as well as other criteria that may be applicable at any stage of the rating process.
Airline Industry

• The airline industry encompasses issuers principally engaged in the transportation of passengers by plane and includes both scheduled and chartered airlines, including legacy, budget, feeder and regional airlines. These companies may also engage in the transportation of cargo, but this is usually on a much smaller scale.
• Per the three-tier IRR system described on the previous page, the airline industry IRR is BB.
• The airline industry is characterized by: (1) high competition arising from low barriers to entry and excess industry capacity; (2) demand cyclical that is generally in line with the overall economy (especially for the more profitable business class segment) with occasional economic shocks, such as 9/11 or energy crises; (3) high costs, particularly for the legacy firms, including fixed costs, such as capital and labour, as well as variable costs, such as fuel; and (4) regulation focused on safety, maintenance, hours of operation per month for personnel and restrictions on routes, landing rights and slots, noting that these regulations could vary by country and legal jurisdiction.
• Income stability is low because of the high fixed costs and fluctuating passenger loads. Profitability is also weak, although, with high levels of depreciation and amortization, cash flow tends to be stronger. The industry is highly seasonal, with revenue usually peaking in the third quarter but weaker in the first and fourth quarters, although effective seasonal capacity deployment to holiday destinations could improve revenue during these weaker quarters.
• The airline industry in North America has reported more stable load factor and revenue growth since 2011, reflecting more disciplined capacity management, although recent industry consolidation through mergers (American Airlines with U.S Airways in 2013, United Airlines with Continental Airlines in 2012 and Delta Airlines and Northwest Airlines in 2010) and delays in deliveries of new aircraft such as Boeing 787 could also be contributing factors. Notwithstanding this recent development, it is still possible for one or more airlines to resume a more aggressive capacity expansion strategy or for event-driven demand disruptions to cause future volatility.
• The airline industry is highly labour intensive and labour cost is mostly fixed, limiting the airlines’ ability to adjust their cost structures in a downturn. Moreover, the labour force is mostly, though not always, unionized, especially the legacy airlines, further limiting operational flexibility. Labour intensity also results in potentially high cash contributions by airlines toward pension schemes, which could be a material cash requirement, as they require additional debt financing and weaken the airlines’ financial metrics.
• Despite the high capital costs, barriers to entry can be relatively low given the availability of lease financing and outsourcing of most support services. These new entrants are generally not hindered by expensive union issues, pension obligations and other overhead.
• The industry tends to have high levels of adjusted debt because of the use of operating leases. Operating lease payments are generally a fixed and material expense and are subject to interest rate risk when leases are renewed.
• The formation of an alliance among airlines (e.g., the Star Alliance) provides member airlines a competitive advantage of scale and flexibility by pooling resources from all members. An alliance allows members to share codes and leverage each other’s services, leading to increased coverage, better connections and higher capacity utilization.
• The advent of travel websites and other travel distribution channels has led to a substantial increase in discounted and promotional fares. On the other hand, airlines and alliances are increasingly encouraging passengers to purchase seats through their own websites as a means of reducing its cost of sales and payments to travel agents.
• Many airlines have made efforts to increase passenger yields to cover operating costs through unbundling airfare by charging of fees for services previously included as part of the ticket price. Such services include in-flight food and beverage, headsets for in-flight entertainment, baggage check-in, priority seating and airport lounge access. Revenues from service charges have increased as a proportion of total revenue in recent years.
• Regulation is high and, rather than reducing competition, regulation (especially related to security matters) increases costs and reduces flexibility of operations. Safety and reputation are key issues, and any airline that has a recent accident is hurt severely in lawsuit settlement costs, reputation loss and future insurance rates. Bilateral agreements with other countries restrict the number of flights between these countries.

• Airlines are vulnerable to security risks related to terrorism, war, political unrest, epidemics, etc., as well as short-term issues, such as disruptions due to weather and natural disasters.
## Airline Business Risk Rating

### PRIMARy BRR Factors
- The BRR grid below shows the primary factors used by DBRS in determining the BRR. While these primary factors are shown in general order of importance, depending on a specific issuer’s business activities, this ranking can vary by issuer.

### Airlines — Primary BRR Factors

<table>
<thead>
<tr>
<th>Rating</th>
<th>BBB</th>
<th>BB</th>
<th>B or below</th>
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<tbody>
<tr>
<td><strong>Operating Cost Structure</strong>&lt;br&gt;(Including Labour and Seasonality)</td>
<td>- Low-cost operating structure, with strong ability to control variable non-fuel costs, as indicated by lower than average cost per available seat miles excluding fuel (of less than eight U.S. cents).&lt;br&gt;- Ability to levy fuel surcharge without adverse effect on demand.&lt;br&gt;- Labour relations are good and strikes are rare. If they exist, unions are generally cooperative.&lt;br&gt;- Modest legacy cost burden, including pension-related costs.&lt;br&gt;- Track record of consistent high-load factor.&lt;br&gt;- Ability to use fleet for sun destinations in winter often adds another method of using planes when there are excesses in other regions.&lt;br&gt;- Strong financial resources to implement financial hedges to mitigate currency and fuel cost risks.</td>
<td>- Operating cost structure is better than average, with some flexibility to control variable non-fuel costs, as indicated by average cost per available seat miles excluding fuel (of eight to 11 U.S. cents).&lt;br&gt;- Some flexibility in levying fuel surcharges without material impact on demand.&lt;br&gt;- Labour relations are reasonable. Strikes are minor, although some labour disruptions may occur.&lt;br&gt;- Moderately high legacy cost burden, including pension-related costs.&lt;br&gt;- Acceptable load factors with occasional fluctuations.&lt;br&gt;- Some flexibility in redirecting fleet in winter to sun destinations.&lt;br&gt;- Ability to implement financial hedges to mitigate currency and fuel-cost risks.</td>
<td>- Average to high cost structure, with limited flexibility to control variable non-fuel costs, as indicated by higher than average cost per available seat miles excluding fuel (of more than 11 U.S. cents).&lt;br&gt;- Limited ability to levy fuel surcharge.&lt;br&gt;- Labour relations are poor. Work disruptions are common and occasionally prolonged.&lt;br&gt;- Material legacy cost burden. Seniority and pension-related issues among unionized workforce an obstacle in contract negotiations.&lt;br&gt;- Below-average load factor and moderate to high variability in load factor.&lt;br&gt;- Limited flexibility in aircraft re-deployment and capacity management.&lt;br&gt;- Limited ability to implement financial hedges to mitigate currency and fuel-cost risks.</td>
</tr>
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</table>

| **Fleet** | - Company owns a large proportion of its planes. Leased aircrafts are on long-term leases with some flexibility.<br>- Company operates modern, efficient fleet.<br>- Fleet age well below industry average (i.e., averaging less than eight years).<br>- Fleet mix compatible with route network.<br>- Proactive fleet rejuvenation program with a good mix of committed and optional purchases. | - Company has a high proportion of leased planes, with leases that tend to be medium term and have moderate flexibility.<br>- Company has a mixed fleet of old and new planes.<br>- Fleet age near industry average. (i.e., averaging between eight and 12 years)<br>- Fleet mix reasonable for route network.<br>- Some fleet planning program that may however be disrupted by late aircraft deliveries from time to time. | - High proportion of leased planes, with long-term leases and limited flexibility in lease terms.<br>- Company has a lot of older and not fuel-efficient planes.<br>- Fleet age older than industry average (averaging more than 12 years).<br>- Fleet mix is not appropriately matched to routes.<br>- Limited fleet planning and purchases may be opportunistic to satisfy short-term demand. |
### Airlines — Primary BRR Factors

<table>
<thead>
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<th>Rating</th>
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<th>BB</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Diversification and Market Share</strong></td>
<td>Highly diversified across several continents and regions.</td>
<td>Well diversified, with no continent producing the majority of revenue.</td>
<td>Regional carrier with limited route diversity.</td>
</tr>
<tr>
<td></td>
<td>Well-balanced mix of domestic and intercontinental flights.</td>
<td>Well-balanced mix of domestic and regional flights, with modest intercontinental routes.</td>
<td>Majority of revenue from a small number of markets and vulnerable to competition.</td>
</tr>
<tr>
<td></td>
<td>Among market share leaders in a significant number of key markets.</td>
<td>Among market share leaders in some key markets.</td>
<td>Not typically among the leaders in terms of market share or only among market share leaders on a very narrow niche basis.</td>
</tr>
<tr>
<td></td>
<td>A key member of a strong international airline alliance, with many code-sharing opportunities.</td>
<td>A member of a strong international airline alliance, with code-sharing opportunities.</td>
<td>Not a member of an international airline alliance, with limited code-sharing opportunities.</td>
</tr>
<tr>
<td></td>
<td>Meaningful revenue from non-passenger services.</td>
<td>Some revenue from non-passenger services.</td>
<td>Revenue from passenger services only.</td>
</tr>
<tr>
<td><strong>Route Network</strong></td>
<td>Highly profitable routes, with high proportion of business travel.</td>
<td>Profitable routes, with reasonable share of business travel.</td>
<td>Network primarily covering regional traffic and/or serving as feeder to other airlines.</td>
</tr>
<tr>
<td></td>
<td>Traffic routes have high growth potential.</td>
<td>Traffic routes have good growth potential.</td>
<td>Traffic routes growth could be limited by demand or infrastructure constraints (e.g., airport landing slots).</td>
</tr>
<tr>
<td></td>
<td>Access to all key cities of markets served.</td>
<td>Access to some key cities of markets served.</td>
<td>Focus on vacation destinations and chartered flights at lower margins.</td>
</tr>
<tr>
<td></td>
<td>High flight frequency at favourable time slots.</td>
<td>Frequent flights at favourable time slots.</td>
<td>Infrequent flights to key cities with often unfavorable time slots.</td>
</tr>
<tr>
<td></td>
<td>Large number of landing slots at key airports to accommodate growth.</td>
<td>Adequate landing slots at key airports to accommodate near-term growth.</td>
<td>Sufficient landing slots at key airports to handle existing traffic volume but limited growth capacity.</td>
</tr>
<tr>
<td></td>
<td>A highly popular loyalty program with strong repeat customer purchases.</td>
<td>A popular loyalty program.</td>
<td>Some form of loyalty program.</td>
</tr>
<tr>
<td></td>
<td>Able to consistently charge higher prices and fees for services because of the above without materially affecting load factor.</td>
<td>Able to charge higher prices and fees for services during high seasons because of the above, without materially affecting load factor and with occasional discounts made to attract new travellers or defend market share from competitions.</td>
<td>Consistently have the lowest prices among competitors flying the same routes to attract customers.</td>
</tr>
</tbody>
</table>

The following BRR risk factors are relevant to issuers in all industries (although the relevance of sovereign risk can vary considerably):

**Sovereign Risk**

The issuer rating may, in some cases, be constrained by the credit risk of the sovereign; in other words, the rating of the country in which the issuer operates generally sets a maximum rating for the issuer. If the issuer operates in multiple countries and a material amount of its business is conducted in a lower-rated country, DBRS may reflect this risk by downwardly adjusting its issuer rating.

**Corporate Governance**

Please refer to DBRS Criteria: Evaluating Corporate Governance for further information on how DBRS evaluates corporate governance and management.
ADDITIONAL BRR FACTORS

- The additional BRR factors discussed below may be very important for certain issuers, depending upon their activities, but they do not necessarily apply to all issuers in the industry.

**Aggressiveness of Future Growth Plan**
- Airlines seeking aggressive growth in fleet capacity either to capture additional share of its existing markets or entry to new markets could face a substantial and prolonged increase in business and financial risks and thus exert pressure to their ratings during the process.
- The aggressive growth plan may not be supported by demand growth in the existing market or may face material competitive pressure from incumbent operators in new markets, resulting in the need of substantial price discount to fill the added capacity and margin pressure.
- The additional financing for the new aircraft purchase could also result in increased fixed charge (interest expenses and aircraft rental) burden, leading to reduced operating flexibility and heightened financial risks.

**Fuel Hedging**
- Given the energy intensiveness of the industry, hedging for fuel pricing is positive in that it reduces earnings volatility.
- Financial capacity to support financial derivatives gives a carrier flexibility to mitigate currency and fuel-cost risks.
- For meaningful credit, companies would be expected to hedge major portions within a year and some beyond.
- While a well-managed fuel-hedging program helps provide more stability to fuel-cost management, it does not eliminate the impact of escalating fuel price as airlines will have to enter into new high-priced hedging contracts to replace the maturing ones. In addition, an airline may be stuck with high-priced contracts if fuel price reverts its trend and decreases sharply. In such case, the need to place collaterals to cover mark-to-market losses as required by some hedging contracts could also reduce liquidity available to the airline.
- In addition to a well-managed fuel hedging program, airlines may also mitigate fuel-cost risks through fuel surcharges if they operate in relatively less price-sensitive markets and through fuel consumption management by operating a fleet of fuel-efficient aircraft.

**Regulation**
- While regulation is heavy for all participants, some companies have better processes and strength in dealing with safety issues, maintenance policies and hours of operation.

**Currency Sensitivity**
- Some companies are sensitive to currency and choices, with respect to hedging, can have an impact on stability.
Airline Financial Risk Rating

PRIMARY FRR METRICS
• The FRR grid below shows the primary FRR metrics used by DBRS to determine the FRR. While these primary FRR metrics are shown in general order of importance, depending upon an issuer’s activities, the ranking can vary by issuer.
• DBRS ratings are primarily based on future performance expectations, so while past metrics are important, any final rating will incorporate DBRS’s opinion on future metrics, a subjective but critical consideration.
• It is not unusual for a company’s metrics to move in and out of the ranges noted in the grid below, particularly for cyclical industries. In the application of this matrix, DBRS looks beyond the point-in-time ratio.
• Financial metrics depend on accounting data whose governing principles vary by jurisdiction and, in some cases, industry. DBRS may adjust financial statements to permit comparisons with issuers using different accounting principles.
• Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to these ratios in the FRR grid below.
• Liquidity can be a material risk factor, especially for lower-rated non-investment grade issuers. DBRS will consider available sources of liquidity including cash on hand, cash flow, access to bank lines, etc., as well as uses of liquidity such as operations, capital expenditures, share buybacks and dividends for every issuer.
• DBRS considers an issuer’s financial policy including factors such as its targeted financial leverage, its dividend policy and the likelihood of share buybacks or other management actions that may favour equity holders over bondholders.
• While market pricing information (such as market capitalization or credit spreads) may on occasion be of interest to DBRS, particularly where it suggests that an issuer may have difficulty in raising capital, this information does not usually play a material role in DBRS’s more fundamental approach to assessing credit risk.

Airlines — Primary FRR Metrics*

<table>
<thead>
<tr>
<th>Primary Metric</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
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<tbody>
<tr>
<td>Cash flow-to-debt</td>
<td>&gt; 30%</td>
<td>20% to 30%</td>
<td>10% to 20%</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>Debt-to-EBITDA</td>
<td>&lt; 2.0x</td>
<td>2.0x to 3.5x</td>
<td>3.5x to 5.0x</td>
<td>&gt; 5.0x</td>
</tr>
<tr>
<td>EBITDA-to-interest</td>
<td>&gt; 7.0x</td>
<td>4.0x to 7.0x</td>
<td>2.0x to 4.0x</td>
<td>&lt; 2.0x</td>
</tr>
<tr>
<td>Debt-to-capital</td>
<td>&lt; 30%</td>
<td>30% to 45%</td>
<td>45% to 60%</td>
<td>&gt; 60%</td>
</tr>
</tbody>
</table>

* All financial ratios are operating-lease adjusted, given the material dependence on this type of aircraft financing.
ADDITIONAL FRR METRICS

- While the primary FRR metrics above will be the most important metrics that DBRS will use in determining the FRR of an issuer, other metrics may be used, depending upon an issuer’s activities, capital structure, pension liabilities and off-balance sheet obligations.
- Profitability, particularly in the medium term, can be an important differentiator of credit risk. DBRS may assess profitability through a variety of metrics, including return on capital.
- While free cash flow (i.e., net of changes in working capital, dividends and capital expenditures, etc.) can be volatile and, on occasion, negative, DBRS may use this and/or other cash flow metrics to assess a company’s ability to generate cash to repay debt.
- Three operating measures specific to the airline industry are useful indicators of revenue flexibility, cost efficiency and capacity management among airlines. They are:
  (1) Passenger revenue per available seat mile, computed in cents per mile, is a measure of unit revenue that an airline can generate out of its available capacity.
  (2) Operating cost per available seat mile, computed also in cents per mile, is an indicator of unit cost that an airline incurs to operate its available capacity. The measure can also be computed excluding fuel costs, which are usually volatile and outside the airline’s control.
  (3) Load factor is a measure of capacity utilization, indicating the proportion of airline capacity that is actually consumed.
- These indicators are useful for trend analysis of an airline’s operating efficiency. Although they are also often used for peer comparison purposes, DBRS notes that it is important to realize that company-specific factors, such as route network, route range, relevant exchange rate fluctuations, fleet types and compositions, and target market (business versus leisure markets), could affect the actual levels of these indicators and it is important to take them into consideration.
Blending the BRR and FRR into an Issuer Rating

- The final issuer rating is a blend of the BRR and FRR. In most cases, the BRR will have greater weight than the FRR in determining the issuer rating.
- At the low end of the rating scale, however, particularly in the B range and below, the FRR and liquidity factors play a much larger role and the BRR would, therefore, typically receive a lower weighting than it would at higher rating levels.

Rating the Specific Instrument and Other Criteria

- For non-investment grade corporate issuers, DBRS assigns a recovery rating and reflects the seniority and the expected recovery of a specific instrument, under an assumed event of default scenario, by notching up or down from the issuer rating in accordance with the principles outlined in the criteria DBRS Recovery Ratings for Non-Investment Grade Corporate Issuers.
- Preferred share and hybrid considerations are discussed under Preferred Share and Hybrid Criteria for Corporate Issuers.
- The issuer rating (which is an indicator of the probability of default of an issuer’s debt) is the basis for rating specific instruments of an issuer, where applicable. DBRS uses a hierarchy in rating long-term debt that affects issuers that have classes of debt that do not rank equally. In most cases, lower-ranking classes would receive a lower DBRS rating. For more detail on this subject, please refer to the general rating information contained in the DBRS rating policy Underlying Principles.
- For a discussion on the relationship between short- and long-term ratings and more detail on liquidity factors, please refer to the DBRS policy Short-Term and Long-Term Rating Relationships and the criteria Commercial Paper Liquidity Support Criteria for Corporate Non-Bank Issuers.
- The existence of holding companies can have a meaningful impact on individual security ratings. For more detail on this subject, please refer to the criteria Rating Holding Companies and Their Subsidiaries.
- Guarantees and other types of support are discussed in Guarantees and Other Forms of Explicit Support.
- For further information on how DBRS evaluates corporate governance, please refer to DBRS Criteria: Evaluating Corporate Governance.
- Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to, these ratios.