

### Criteria | Corporates | Industrials:

# Key Credit Factors: Criteria For Rating The Airline Industry

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# Key Credit Factors: Criteria For Rating The Airline Industry

1. Standard & Poor's Ratings Services is refining and adapting its methodology and assumptions for rating airlines. We are publishing this article to help market participants better understand our approach to reviewing key credit factors in the airline industry. This article is related to our criteria article "Principles Of Corporate And Government Ratings," which we published on June 26, 2007.

## SCOPE OF THE CRITERIA

2. Standard & Poor's is updating its criteria for analyzing airline industry key credit factors and industry risk with the goal of bringing greater transparency and clarity to its analytic process. To this end, key credit factor analysis, which is an important component of airline ratings analytics, is being divided into three categories.

## SUMMARY OF CRITERIA UPDATE

3. This article partly amends and supersedes "Key Credit Factors: Business And Financial Risks In The Airline Industry," published Sept. 18, 2008. The three newly established key credit factor categories are:
  - Category one factors are, in our view, the most relevant factors; they ordinarily affect the rating outcome in a meaningful way, and in many instances are critical to our rating conclusions.
  - We view category two factors as of lesser relevance, but they may in some instances still prove critical.
  - Category three factors may be individually meaningful in a few instances, but ordinarily just shape the company's overall profile in conjunction with the other factors.

## IMPACT ON OUTSTANDING RATINGS

4. We do not expect implementation of these criteria to cause rating changes.

## EFFECTIVE DATE AND TRANSITION

5. These criteria are effective immediately.

## METHODOLOGY

6. Our analytic framework for industrial companies in all sectors, including the airline industry, is divided into two major segments. The first part is fundamental business risk analysis. This step forms the basis and provides the industry and business contexts for the second segment of the analysis, a financial risk analysis of the company.

### Summary of key credit factors

7. The key credit factors used in analyzing an airline are listed below and divided into three categories. We also discuss industry risk factors pertinent to our ratings process in the Industry Risk section of this report. In our opinion, the

airline industry usually involves greater credit risk than most other industries and sectors, as reflected in the fact that we characterize the business risk profiles of more than two-thirds of rated airlines as either weak or vulnerable.

**Category one factors:**

- Market position, including the following key elements: its route network, the revenue potential of the markets it serves, and the strength of the airline's competitive position in those markets (which may be enhanced by implicit government support in some countries);
- Revenue generation, which includes capacity utilization and pricing; and
- Operating cost structure relative to competition and the company's revenue model.

**Category two factors:**

- Diversity of revenues, based on geography, types of passengers, and contribution from nonpassenger services.

**Category three factors:**

- Age, technology, and suitability of aircraft fleet to airline's operating requirements;
- Labor relations; and
- Service standards and reputation.

## **Part I--Business Risk Analysis**

8. We subdivide business risk analysis into four categories: country and macroeconomic risk, industry risk, competitive position (including management), and profitability/peer comparisons. We evaluate each category and then determine a score for overall business risk: Excellent, Strong, Satisfactory, Fair, Weak, or Vulnerable.

**Country risk and macroeconomic factors (economic, political, and social environments)**

9. Country risk plays a critical role in determining all ratings on companies in a given country. Country-related risk factors can have a substantial effect on company creditworthiness, both directly and indirectly. While our sovereign credit ratings suggest the general risk local entities face, they may not fully capture the risk applicable to the private sector. We look beyond the sovereign rating to evaluate the specific economic and other country risks that may affect the entity's creditworthiness. Such risks pertain to the effect of government policies and other country risk factors, such as safety and environmental regulation, the air traffic control system, airport infrastructure, and labor law, although there may be various strategies an airline can pursue to try to insulate itself from certain of these risks.
10. Large, developed countries or regions, such as the U.S. and the EU, are wealthy enough to support substantial travel demand, but tend also to have many airline industry participants and often, intense competition. Conversely, in less developed countries, such as Brazil, economies tend to be more volatile, but also may offer stronger growth prospects for travel demand. International travel is governed by aviation treaties between countries, and has gradually moved toward less regulation and greater ease of competitive entry. Despite these individual treaties, and in part because of the fact that so many large airlines operate internationally, the airline industry tends to have many common global characteristics. These include buying aircraft from a very limited number of manufacturers, the fact that prices of planes and jet fuel are usually denominated in U.S. dollars, and fairly standard operating and safety practices. In the past several years, a growing number of countries have adopted a common set of procedures governing the treatment of secured lenders and lessors that finance aircraft, adopting provisions in an international agreement called the Cape Town Convention.

### **Industry risk characteristics**

11. In establishing a view of the degree of credit risk in a given industry for rating purposes, we find it useful to consider how its risk profile compares with that of other industries. Risk categories are broadly similar across industries, but the effect of these factors on credit risk can vary markedly among industries (see chart 1). The key industry factors are scored as follows: High risk (H, red), medium/high risk (M/H, red), medium risk (M, orange), low/medium risk (L/M, green), and low risk (L, green).



Key Industry Characteristics And Drivers Of Credit Risk				
	Airlines	Aerospace	Autos	Freight/ Railroads
<b>Industry dynamics and competitive environment</b>				
Industry cyclicality	H	H	H	M
Ease of entry	M/H	H	M/H	L
Product cycle/obsolescence	L	M	H	L
Product quality/pressure	M	H	H	M
Disintermediation/substitution	L	L	L/M	M
Competition/commoditization	H	L/M	H	M
Pricing inflexibility	H	M	H	M
Business model instability	M	L	L/M	L
Demographic trends	L	L	L	L
<b>Growth and profitability</b>				
Growth outlook	M	L/M	M/H	M
Profit margin pressure/outlook	H	M	M/H	M
Earnings volatility	H	M/H	H	L/M
<b>Operating considerations and costs</b>				
Technological risk/change	L/M	M	L/M	L/M
Cost rigidity/inflexibility	H	H	H	M
Operating leverage	H	H	H	M/H
Research and development costs	L	H	H	L
Energy cost sensitivity	H	L	H	M
Raw material cost sensitivity	L	M	H	L
Labor costs	H	M/H	H	M/H
Labor inflexibility/unrest	H	M/H	H	M
Pension costs/contingents	M/H	M/H	H	L/M
Environmental impact/costs	M/H	M/H	H	M
Marketing costs	L/M	L	H	L
Customer concentration	L	M	L	L/M
Supplier concentration	M	L/M	M	L
Risk management	M/H	M	M	M
Asset quality/plant upkeep and age	M/H	M/H	M	M
Event-risk sensitivity	H	M/H	M/H	L/M
Financial market volatility/sensitivity	M	L/M	M	L
Fashion/fad/design sensitivity	L/M	L	H	L
<b>Capital and financing characteristics</b>				
Capital intensity	H	H	H	H
Borrowing requirements	H	M	H	M
Interest-rate sensitivity	M	L	H	L
<b>Government, regulatory, and legal environment</b>				
Regulation/deregulation/patents	H	M/H	M/H	M/H
Government microeconomic and social policy	M/H	M/H	H	M/H
Litigiousness/ legal risk	M	L/M	M	L/M

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12. Broadly speaking, the lower the industry risk, the higher the potential rating on companies in that sector. Industry risk identifies the range of business risk profile scores we generally expect to assign to an industry. We have found that those sectors with lower (i.e., less risky) industry risk will tend to have higher business risk profile scores than those sectors with higher (i.e., more risky) industry risk. However, a high-industry-risk profile does not automatically limit our rating on a company. Companies can differentiate themselves regarding business risk, and may be able to mitigate certain business risks with cautious financial strategies.
13. Industry risk analysis sets the stage for company-specific analysis. Once key country risk and industry risk considerations are identified, our credit analysis process proceeds to a second phase--company-specific analysis. If, for example, we view technology as a critical competitive factor, our analysis typically places greater weight on a company's research and development (R&D) capabilities. If the industry produces a commodity, production cost is of major importance. The goal of our approach is to develop a robust understanding of the company's external operating environment when evaluating its overall business position. Industry analysis focuses on industry prospects, and identifying the competitive factors, risks, and challenges affecting participants in that industry. The degree of business risk facing a company almost always depends on the dynamics of the industry in which it participates. Different industries pose different risks and opportunities for the companies that operate in their sectors.
14. Our evaluation of an enterprise's competitive position identifies those entities that we believe are best positioned to take advantage of these key industry drivers--or to mitigate associated risks more effectively. These entities should show a competitive advantage, and a stronger business risk profile compared with those companies that lack a strong competitive value proposition or that are more vulnerable to sector risks. When combined, our view of an enterprise's competitive position is shaped by the industry risk of the sector(s) in which it operates, thus establishing our overall view of the enterprise's business risk profile.
15. We consider the industry risk profile of airlines to be relatively high overall because of the confluence of higher-risk industry factors. The first of these factors is that the airline industry is cyclical, and the financial and business performance of airlines typically is significantly affected by changes in economic activity.
16. The industry is also vulnerable to increases in the price of jet fuel, which moves mostly because of changes in the price of oil, but is to some extent affected by factors such as refinery capacity. Airline competition is increasingly price-based, a trend accelerated by the increasing use of Internet-based travel search tools. However, the degree of price competition continues to vary by market and by type of passenger, with leisure passengers more price sensitive than business passengers.
17. Airlines tend to have high fixed costs and thus high operating leverage, driven mostly by the industry's capital intensity. In addition, we believe the relative ease of financing aircraft has tended to lead to periodic overcapacity, as even weak airlines can acquire aircraft for growth or replacement. The cost of carrying an additional passenger is relatively small--mainly distribution costs and small charges for baggage handling and on-board service. Adding or cancelling a flight involves more variable costs--mostly fuel--but still does not affect a majority of overall costs.
18. The airline industry in most countries has a high proportion of organized labor, which affects labor costs (the second-largest cost item) through pay, benefits, and work rules. Lastly, airlines are susceptible to strikes, and work stoppages historically have quickly resulted in heavy losses for affected airlines because of their high fixed costs.
19. In our view, these risks are somewhat mitigated by several industry characteristics. The principal revenue assets, aircraft, often have been used as collateral for secured financing or leasing. Although, as noted above, this may

result in periodic overcapacity, unencumbered aircraft may be used as collateral for borrowing or for sale-leasebacks to raise liquidity when other financing would not likely be available.

20. Another mitigating industry feature, in our view, is that global economic and demographic trends support long-term demand growth. This is particularly apparent in higher-growth regions such as Asia and the Middle East.
21. Lastly, while trains or automobiles provide an alternative means of transportation on many short routes, there remain no effective competing modes of transportation to airlines on longer routes (particularly intercontinental routes).

### Company-specific analysis

22. Once key country and industry risk considerations have been identified, including industry-specific key credit factors, the credit analysis proceeds to company-specific analysis. The business risk part of this analysis is divided into three parts: Company competitive position (including market position, diversification, operating efficiency and technology/R&D); management assessment; and profitability (incorporating industry peer group company comparisons.)

### Company competitive position

23. In our view, industry leaders that are globally or regionally well diversified, predominantly focusing on relatively attractive markets, with operating cost advantages can sometimes mitigate industry risk sufficiently to achieve stronger and more consistent profitability and business risk profiles (and may be considered for investment-grade ratings, given prudent leverage and financial policies). In analyzing an airline's competitive position, we consider market position, diversification, operating efficiency and management.
24. **Market position.** Our evaluation of market position focuses primarily on the following factors (from most to least important):
  - Market position (category 1);
  - Route network (category 1);
  - Attractiveness (revenue potential) of markets served (category 1);
  - Strength of position within those markets, including potential support from governments in some countries or for selected airlines (category 1); and
  - Service standards and reputation (category 3).
25. Market position drives an airline's revenue generation. Key elements of market position include route network, attractiveness of markets served, and strength of position in those markets (which may be enhanced by implicit government support in some countries). In analyzing an airline's route network, factors we consider usually include: access to major markets, particularly those that generate business travel, that have good growth potential, and that have barriers to competitive entry; national and global coverage, including alliances; and position of hubs to serve connecting traffic flows and degree of competition from other airlines' hubs. In analyzing position within a market, factors we consider usually include: share of local traffic at major airports served; share of traffic on the airline's own largest routes; barriers to entry in core markets and airports served; and strength of competition in major markets. Airlines with a leading market share at an airport or in a metropolitan area tend to carry a disproportionately high (relative to seat capacity) share of traffic, particularly business traffic. Typically, this is because frequent flights are attractive to business travelers, and local customers will tend to favor the leading airline's frequent flyer program (which encourages further flying). Also, local traffic (i.e., passengers who begin or



end their trip at a given airport) tends to be more profitable than connecting traffic (those just switching planes at an airport), because airlines can charge more for direct service than trips requiring a connection. Market position is often the most important factor influencing our evaluation of competitive position for traditional airlines that operate hubs and/or have significant international operations (both of which may have barriers to entry that support revenue generation). Conversely, low-cost airlines rely more on their relative cost advantage; thus operating efficiency is a more important driver of our evaluation of their overall competitive position.

26. In selected cases, we consider also the potential for support from governments to aid the competitive position of airlines. This typically is not direct financial aid, but policies or practices that work to the benefit of selected airlines. For example, international aviation treaties that limit competition create barriers to entry and may shield a favored airline from competition. Historically, many governments have helped their "flag carriers" (the principal airline providing international service to and from its home country) in this fashion. With the creation of a single aviation market in the EU, changes in many bilateral aviation treaties that permit greater competition (and the rapid spread of low-cost airlines), government support generally has become a less significant source of competitive advantage. The 2009 bankruptcy of Japan Airlines Co.--once one of the strongest flag carriers, in a market with high barriers to entry--was a striking example of the changing fortunes of a major flag carrier.
27. Perceptions of service standards and reputation by passengers is usually driven by service quality, schedule convenience, route network coverage and various promotional programs such as frequent flyer programs. We believe these perceptions often can help an airline to attract a higher proportion of business travelers and fill seats in the first- and business-class sections.
28. Diversification.
29. We judge an airline's diversity principally based on the geographic distribution of its flight operations, the mix of types of passengers it carries, and the revenue and income contribution from nonpassenger services.
30. Airlines range from small, specialized air carriers to global enterprises. Generally, we view a variety of sources of revenue as a positive credit factor. That variety can be measured by geography, types of passengers carried, and proportion of nonpassenger services. Airline passengers are usually classified as business or leisure, based on the purpose of their trip, and all airlines carry a mix of the two, with differences only in the relative proportions. In the recent airline industry downturn, we believe British Airways plc's reliance on a specific market--U.K. to U.S.--and class of service (first and business hurt its financial results more severely than more diversified competitors Air France Group and Lufthansa. Some traditional airlines have established low-cost subsidiaries offering low fares as a way to compete against low-cost airlines. In the U.S. and Europe, these efforts have generally failed (and the low-cost units shut down or sold), but a few airlines, such as Qantas Airways Ltd., have diversified successfully and fortified their market position by doing so.
31. Apart from passenger transportation, most airlines operate related businesses. Airlines carry cargo, either in large passenger planes, or (less often) in dedicated freighter aircraft. We view air cargo as a cyclical and volatile business, but some airlines, particularly in rapidly growing regions (e.g. Asia and Latin America) successfully have pursued this business. Some large airlines perform repair and maintenance work on other airlines' aircraft when they have spare capacity, a business for which success depends significantly on labor costs.
32. Many large airlines sell frequent flyer miles to partner companies (e.g. credit cards, hotel chains, car rental companies), which use them as a marketing tool to attract customers to their products and services. These revenues,

typically grouped with other nonpassenger, noncargo revenues (and not broken out separately) are not large relative to those provided by passenger transportation, but they can carry much higher margins. (This was demonstrated by Air Canada, which split out its frequent flyer business, Aeroplan, as a separate company, which quickly achieved a far higher implied market capitalization than its former parent airline.) We believe this reflected both the high margins of the mileage business and Air Canada's relatively poor profitability. Although revenue-source diversity can be advantageous, in our view it tends to be outweighed by other factors--particularly market position and operating efficiency--when we evaluate an airline's overall competitive position.

33. **Operating efficiency.** In analyzing a company's operating efficiency we usually consider the following factors (from most to least important) as part of our rating process:
- Operating cost structure relative to competition (category 1);
  - Revenue generation (category 1);
  - Age, technology, and suitability of aircraft fleet to airline's operating requirements (category 3); and
  - Labor relations (category 3).
34. Our analysis of operating efficiency focuses on operating cost structure, revenue generation, an evaluation of an airline's aircraft fleet, and labor relations.
35. Operating cost structure is a particularly important competitive factor in our analysis of airlines. The standard measure of airline operating costs is operating expense (after depreciation) per available seat mile/kilometer. This tends to be higher for airlines flying short flights, because many costs are fixed, and spread out over more seat miles on longer trips. Airlines sometimes include in materials provided to investors a comparison of its operating cost per available seat mile with those of its peer airlines, where each airline's statistic is estimated assuming an identical average flight length. We consider these comparisons to be more useful than unadjusted operating cost per available seat mile. Higher costs are clearly less favorable, but performance relative to competitors is more important in our analysis than absolute levels. In addition to flight length, this statistic is influenced by the mix of coach and business or first class seating (the more of the coach seats, the greater "seating density" and thus more seats over which to spread costs), the level of fuel prices, and how quickly an airline is growing (growth tends to lower cost per available seat mile, but may also lower revenue per available seat mile as well).
36. The largest operating expense categories are labor, fuel, and ownership costs. Labor costs are one of the key differentiators among airlines, and typically account for one-quarter to one-third of total operating expenses. Labor contracts (usually with organized labor groups) determine pay scales and generosity of benefits relative to those of competitors, and the flexibility of work rules. The last item is an important consideration for airlines, many of which were once heavily regulated, an environment that tends to coincide with less efficient work practices.
37. Fuel is a large and volatile expense item. With the increase in oil prices in 2008, fuel costs (historically the second or third largest expense category) became the largest at many airlines (30%-40% of the total). Airlines with older fleets consume more fuel, as do those that fly long routes. We view the former as negative for operating efficiency, but do not believe the same of the latter, because it merely reflects the type of routes that the airline operates.
38. Ownership costs are another significant expense item (typically 10%-20% of the total), but they are disclosed through several reported operating and nonoperating categories: depreciation, lease rentals, and interest expense. Lease rentals are shown as an operating expense, although we believe they are actually a capital, rather than an operating, expense. Airlines that use a high proportion of aircraft operating leases usually appear to have higher

reported operating cost per available seat mile, but lower interest expense than competitors that own their fleets. Where airlines construct and control their own airport facilities (often in partnership with the local airport authority or municipality, as is common in the U.S.), real estate rentals can be a significant expense item, as well. As a result, total lease-adjusted debt will be higher for airlines (e.g., in the U.S.) that sign long-term real estate leases than those in countries (e.g., Brazil) that generally rent terminal space from airport authorities on a shorter-term basis.

39. Revenue generation is a function of capacity utilization and pricing. For the airline industry, capacity utilization is measured by "load factor": Revenue passenger miles/kilometers, which is the measure of traffic, divided by available seat miles/kilometers, which is the measure of capacity. This ratio represents the proportion of seats filled on a distance weighted basis. Load factors for airlines typically range from 70% to 85%. A higher load factor is, other things being equal, in our view more desirable. However, other things, specifically pricing, rarely are equal. Airlines recently have been able to fill seats using discounts, and some have done so quite effectively while losing money at the same time.
40. The standard measure of pricing in the industry is yield (i.e., passenger revenues per revenue passenger mile/kilometer). Yield can vary widely, but major U.S. carriers typically report figures in the 10%-20% range, and non-U.S. airlines often report higher yield. Again, in our view higher typically is better, but many factors can affect reported yield. Airlines flying short flights tend to have higher yields, because ticket prices are not strictly proportional to the length of trip (a relationship that parallels that for operating cost per available seat mile and flight distance). The product of multiplying load factor and yield is passenger revenue per available seat mile/kilometer. We view this as a more complete measure of revenue generation than either of its component parts, although it (like cost per available seat mile) is affected by factors such as average flight length, the mix of coach and business- or first-class seats, and how quickly an airline is growing.
41. Airlines generally try to maximize revenues by managing the trade off between pricing and utilization. The goal of "yield management" is to sell higher priced tickets to those who are relatively indifferent to price (business travelers) or to those who have fewer options (passengers using an airport dominated by a single airline). At the same time, airlines usually try to attract discretionary travelers (such as vacationers) with discount prices. Yield management and related allocation of seat inventory to various fare classes typically is most effective when demand exceeds supply; it is of less help in a weak market.
42. For purposes of evaluating an airline's revenue generation, we view a higher proportion of business travelers and premium class traffic as a positive factor. However, in markets with low-cost competition, the differential between fares paid by business travelers and vacation travelers has narrowed significantly. On intercontinental routes, fares paid by business travelers (particularly those flying in business class or first class) remain quite a bit higher than those paid by most leisure travelers, and competition through amenities (generously sized seating, in-flight entertainment, etc.) remains significant.
43. Our evaluation of an airline's fleet is less important than that of revenue generation or operating cost structure, but nonetheless can provide useful credit information. The evaluation focuses on the fleet's age and fuel efficiency, the variety of aircraft flown, and their suitability to an airline's route structure. An aging fleet imposes penalties in operating performance and often presages heavy capital expenditures in the future. Conversely, an airline with a relatively young fleet has the flexibility to cut back on capital spending if the industry environment or its own financial circumstances dictate. Even so, newer planes cost considerably more than the aircraft they replace, and airlines typically weigh the operating benefits against the burden of debt and leases used to acquire them. A fleet

with relatively few models and engine types simplifies training and maintenance, limiting costs. Southwest Airlines Co., the leading U.S. low-cost airline, is a company that has used this strategy successfully. In our analysis, we weigh the benefits of simplicity against the drawback of fewer planes with varying size and range to best serve a variety of routes and markets (particularly airlines that operate internationally). Continental Airlines Inc. has used the strategy of operating many different aircraft models to best match the size of the plane to demand on each route. Its revenue per available seat mile is higher than those of most peers, but its operating cost per available seat mile is also relatively high.

### **Management**

44. The airline industry's profit record historically generally has been poor, but we believe some management teams have handled the considerable inherent risks of the industry better than others. Aside from the factors we consider when evaluating the management of any company, for airlines we focus in particular on how management handles labor relations, the rationale for and tactics used to pursue growth, and the role of acquisitions in an airline's overall strategy. In our view, the most successful labor relations generally have been characterized by ongoing close communication by management with employees and labor leaders, and seeking to negotiate contracts that offer gains sought by unions (such as pay raises) while receiving in return contractual changes that offset higher costs (such as changing work rules to enhance labor productivity).
45. We consider airline growth strategies that rely on rapid expansion into markets currently dominated by other airlines to present risks to credit quality. Such moves usually precipitate price wars and heavy losses. In our view, mergers of airlines may carry significant financial and operating risks, but well-chosen and well-timed combinations can improve competitive position. Generally, mergers of airlines have been most successful when:
  - The two airlines' route systems do not overlap extensively, but link together to provide much more comprehensive coverage of desirable markets;
  - The airlines' labor unions are willing and able to work out agreements with each other (e.g., an agreement between the pilots' union of one airline and of the other) on potentially divisive issues such as seniority; and
  - The airlines together have the financial resources to fund investments needed to merge fleets, information systems, and airport facilities.
46. Consideration of an airline's ownership can become more important in our analysis where an airline is partly or wholly government owned (gradually becoming less common) or where an airline is owned by a travel conglomerate (which also owns tour operations or hotels). Such ownership situations can provide short-term financial support, but in our view may promote inefficiency over the long term if the airline is not operated as a profit-maximizing entity for its own sake.

### **Profitability and peer comparisons**

47. Profitability measures for airlines include the following ratios, which we compare with both those of peers and of companies in other industries:
  - Pretax, pre-interest return on capital;
  - Operating income plus D&A as a percentage of sales; and
  - Operating income after D&A as a percentage of sales.
48. We analyze profitability measures in absolute and relative terms, focusing on the volatility, trends, and prospects of the measures. Where companies are pursuing restructuring efforts or cost reduction programs that render charges to

the profit & loss statement, we analyze ratios including and excluding these costs, in order to facilitate comparability. We adjust these and other credit measures for various items, most notably off-balance-sheet leases (which are quite significant for many airlines) and retiree liabilities (which are material for some airlines).

49. Return on capital measures the underlying efficiency of invested assets and we believe can be a leading indicator of long-term financial performance. This profitability ratio is indifferent to the mix of debt and equity in a company's capital structure, facilitating our comparison of one company to another. Return on capital tends to be low for airlines, reflecting the capital intensity of the business. Most of the assets are property, plant, and equipment (aircraft), and are financed with debt, leases, and equity. We view capital intensity as a limiting ratings factor for airlines, as for some other industries, particularly in view of the long lives (around 25 years) and high cost of aircraft.
50. We measure airline operating margins both before depreciation (as is typical for most industrial companies) and after depreciation and amortization (as reported by airlines and other transportation companies). For airlines generally, operating margins before D&A (adjusted for leases) are similar to medians for comparably rated corporate issuers (in the teens percent range), albeit volatile. However, depreciation expense for airlines is substantial and margins measured after that are typically in a range that we view as weak (in the single-digit percent range) compared with those in many other industries. Because of the many risks inherent in the business, particularly the economic cycle and fluctuations in energy prices, airline operating results tend to be volatile.

## Part II--Financial Risk Analysis

51. Having evaluated an airline's business risk, we next look at several financial categories. The company's business risk profile generally determines the financial risk we expect to see for any rating category. We assess financial risk largely through quantitative means, particularly by using financial ratios.
52. We analyze five risk categories: accounting characteristics; financial governance/policies and risk tolerance; cash flow adequacy; capital structure and leverage; and liquidity/short-term factors. We then determine a score for overall financial risk: Minimal, Modest, Intermediate, Significant, Aggressive, or Highly Leveraged (see "2008 Corporate Criteria: Analytical Methodology," published April 15, 2008). We comment below on financial risk criteria specific to the airline industry:

### Accounting characteristics

53. Our accounting adjustments for airlines generally follow the methodologies applied to companies in other industries, with the following adjustments being in our view particularly significant:
54. **Leasing.** Airlines use leases extensively to finance aircraft and facilities. The aircraft leases may be long-term finance leases that qualify as off-balance-sheet for accounting purposes, or operating leases typically of a three- to seven-year term. Facility leases relate to tax-exempt financing of airport and other facilities. For many U.S. airlines, the present value of off-balance-sheet leases is greater than balance sheet debt.
55. **Retiree liabilities.** Many airlines have defined benefit pension plans and retiree health plans. We consider a pension deficit (plans assets less than projected benefit obligation) as a debt-like liability and includes that amount in total adjusted debt. Retiree medical liabilities, which typically are not pre-funded, are similarly considered to be debt-like liabilities. The scale of these liabilities for large U.S. airlines has generally lessened since 2001, with many defined benefit pension plans terminated.

### Financial governance/policies and risk tolerance

56. As for companies in other industries, our evaluation of airlines' financial policy includes a review of management's views on dividends, share repurchases, funding of acquisitions and capital expenditures, and target capital structure and concrete steps taken to achieve it. Historically, few airlines pay significant dividends, but some (notably large U.S. airlines in the late 1990s) undertook large share buybacks. Given the high fixed capital requirements, cyclicality, and often-poor profitability of the industry, we typically regard such policies as presenting financial risks.
57. Conversely, many U.S. airlines have been willing to issue new equity, even at depressed prices, since the Sept. 11, 2001, attacks. High debt leverage is not necessarily by design because persistent losses can erode equity and elevate leverage (measured by debt to capital), and borrowing is sometimes used by airlines to maintain adequate liquidity. Even so, we regard management's commitment to debt reduction going forward as important to our analysis.
58. Since energy costs are a key influence on profitability and cash flows in the airline sector, analysis of enterprise risk management practices, including hedging policies and positions is important. We take into account the likely impact of hedging in our financial forecasts and sensitivity tests. Hedging of fuel price exposure has become an important issue with the severe volatility of oil prices in recent years. We believe airlines face several challenges in hedging fuel prices: The market for jet fuel derivative instruments is not very deep. Airlines accordingly hedge using derivatives based on crude oil or heating oil prices, but face basis risk, since jet fuel price movements do not always correlate closely to those of oil or heating oil. The volatility of oil and jet fuel prices tends to make hedging expensive.
59. An added consideration in fuel hedging is that counterparties in some derivative instruments (e.g., a swap) require posting of cash collateral to cover their credit exposure to airlines. This became a material liquidity issue in late 2008, when the sharp drop in oil prices forced airlines that had entered into certain types of hedging derivatives to post large amounts of cash collateral with their counterparties. In our view, the effectiveness of a hedging program depends on the proportion of fuel needs hedged, the price at which the hedges become effective, the type of hedging instruments used, and the credit quality of the counterparties.
60. Airlines sometimes also hedge foreign currency mismatches. This can be a significant issue for airlines in developing countries. Aircraft and fuel are priced in dollars, but airline revenues may be mostly in currencies that fluctuate widely relative to the dollar. This presented significant risks for some airlines during the Asian currency crisis of the late 1990s and, historically, during similar events in some countries of South America. Because much airline debt takes the form of long-term, fixed-rate, aircraft-backed obligations (either secured debt or leases), we view interest rate exposure as less of a risk than for some other capital-intensive industries. Floating rate bank debt tends to be a more significant funding source for European and Asian airlines than for U.S. airlines.

### Cash flow adequacy

61. **Cash flow ratios.** Ratios show the relationship of cash flow to debt and debt service, and to the company's needs. Because there are calls on cash other than for repaying debt, it is important to our analysis to know the extent to which those requirements will allow cash to be used for debt service or lead to greater need for borrowing. The most important cash flow ratios we look at for airlines are:
  - EBITDA interest coverage; and
  - Funds flow to debt.
62. Because of the large proportion of fixed assets (mostly aircraft) on an airline's balance sheet, noncash depreciation expense generally is significant, and cash flow generation is often materially better than reported earnings. Cash flow can be defined variously as EBITDA, funds from operations, or operating cash flow (after changes in working

capital accounts).

63. Current assets and liabilities form a smaller proportion of an airline's balance sheet than for many industrial companies, so the difference between funds from operations and operating cash flow is typically not large. In contrast to most manufacturing firms, a growing airline does not need to invest in working capital. This is because passengers buy tickets in advance of flying, providing cash to the airline. Because revenues are not booked until air transportation is provided, an offsetting current liability called "air traffic liability" (akin to a deferred revenue) is created. Air traffic liability (and the associated cash) shows a seasonal pattern, typically rising through the spring as tickets for summer travel are purchased, and declining thereafter (excepting smaller peaks ahead of holiday travel periods).
64. Although airlines usually generate significant cash flow and generally do not need to invest in working capital to support growth, they typically do make significant capital expenditures to acquire aircraft and substantial debt and leases to finance them. This is mitigated somewhat by the fact that airline assets and the debt to fund them usually have long lives. The most favorable case in our analysis would be long, level debt or lease repayment matched to the average remaining life of the revenue assets. However, because of the ability to extend the useful life of aircraft, airlines can usually defer most capital expenditures for several years to manage through a downturn. Aircraft manufacturers often have agreed to defer scheduled deliveries at the request of large airline customers (though sometimes in return for other considerations, such as converting options into firm commitments). Also, historically airlines generally have been able to finance new aircraft using secured debt or leases, even for weak airline credits.

### **Capital structure and leverage**

65. The following key ratios are useful indicators of leverage in our analysis of airlines:
- Debt to capital (debt/debt + equity);
  - Debt/EBITDA; and
  - Debt/revenues.
66. Most airlines' debt-to-capital ratios are high compared with those of most industrial companies, both overall and relative to like-rated companies in other industries. In our view, most of the differential relative to other companies results from past losses that eroded book equity. An airline may have some material assets not shown on the balance sheet, or shown at understated values, such as international route rights, or takeoff and landing slots at crowded airports. Comparing market capitalization (the value of a company's shares) to equity can give some evidence on this point, but share prices also can be affected by factors (e.g., equity market conditions) we do not consider to be relevant to the measurement.
67. Because debt to capital is a limited leverage measure, we also focus on debt to EBITDA. When comparing airlines, we may also calculate debt to EBITDAR (adding to EBITDA the full amount of lease rentals). Because our calculation of lease-adjusted EBITDA adds back the interest component in rentals, but not the depreciation or amortization equivalent. If an airline extensively uses off-balance sheet leases, its lease-adjusted EBITDA may be noticeably lower than an airline with the same cash flow generation and overall debt burden that uses secured debt instead of leases. Because we expect debt to EBITDAR to be slightly lower than adjusted debt to EBITDA for most industrial companies (which, on average, do not use leasing as extensively as do airlines), we expect airlines' debt to EBITDAR ratios to be similarly slightly better than the industrial median debt to EBITDA ration we generally expect.

68. One measure of leverage particular to the airline industry that we sometimes consider (and used especially for U.S. airlines) is debt (or net debt) as a percentage of revenues. This is a measure of the total financial burden relative to the size of the company. Rather than comparing debt to cash flow (as does debt to EBITDA) or to equity (as does debt to capital), it measures how large an airline's debt burden is in a relative sense. This provides an additional perspective in cases where the equity account shrinks because of losses, but the absolute debt burden may be less than that of peers. We believe it also helps adjust for the effects of "fresh start accounting" used under U.S. GAAP for companies exiting bankruptcy reorganization.

### Liquidity/short-term factors

69. **Internal sources of funding.** We expect most companies faced with severe liquidity pressures to make internal adjustments to maximize near-term cash flow. Considering a company's flexibility to do so is an extension of our normal cash flow analysis. Airlines typically have several possible options for doing so, each of which provide benefits and drawbacks:
- They can shrink operations, targeting the least profitable routes;
  - Sell excess aircraft or other assets, such as international routes or airport facilities; and
  - Reduce capital expenditures, which may require negotiating with aircraft manufacturers to defer scheduled deliveries.
70. Shrinking operations, as airlines have in response to cyclical downturns or high fuel prices, can reduce near-term cash losses. However, it is hard for airlines to reduce their fixed costs proportionately to reductions in flying. Employees are laid off in order of seniority, so the least-senior (and lowest-paid) employees go first. Shrinking operations also makes some aircraft surplus. Although aircraft are assets that can be sold from one airline to another, selling them in a recession is more difficult. If aircraft are leased, the airline's choice is to sub-lease the planes, subject to the terms of the lease. Another way to raise funds from asset sales is to sell international route rights, but we believe this may sacrifice future growth opportunities for short-term liquidity.
71. Many airlines hold what we view as fairly large levels of unrestricted cash and short-term investments as their principal source of backup liquidity, supplementing or even replacing entirely bank facilities. Because of the huge losses that can be caused by labor strikes, terrorism, or a sudden fuel price spike, even investment-grade airlines may carry a large amount of cash. One ratio we use to judge the depth of cash liquidity is unrestricted cash and short-term investments as a percentage of revenues. As with debt as a percentage of revenues, this ratio adjusts for the size of the airline. For U.S. airlines, this ratio tends to range from 10% to 30%, with cash holdings typically well in excess of current debt maturities. Bank credit facilities to airlines usually include a financial covenant that references a minimum level of cash, in addition to more traditional financial measures such as fixed charge coverage.
72. When judging cash holdings, we consider the risk that a significant proportion of the cash may become restricted if the airline is in financial distress and the bank or banks that process its credit card sales hold back cash. Because most airline tickets are purchased using credit cards, and the processing bank pays the airline in many cases in advance of the associated flight, the processors are exposed to the risk that passengers may demand a refund if the airline shuts down and does not provide the flight. For this reason, these banks usually require financial covenants that may reference credit ratios, cash on hand, or credit ratings. If the airline breaches these covenants, the credit card processing bank may hold back increasing proportions of the credit card receipts, cutting into the airline's cash reserves.
73. Another important factor in analyzing an airline's cash reserves is that an airline in our view will likely choose to file



for bankruptcy well before its cash is totally exhausted, so as to have some operating liquidity to continue operations in Chapter 11 and seek to reorganize. The large U.S. airlines that filed for bankruptcy during 2002-2005 generally did so when unrestricted cash and short-term investments as a percent of revenues had fallen into the 5%-10% range.

74. **External sources of funding.** Banks, particularly in Europe and Asia, have historically been active in financing newly delivered aircraft. Lending to airlines shrank during the financial turmoil of 2008-2009, except where the credit exposure was covered by a guaranty from an export credit agency or the U.S. Export-Import Bank. This type of financing is not available for Boeing or Airbus planes sold to airlines in the U.S. or in the four countries in which Airbus manufactures planes, France, Germany, the U.K., and Spain.
75. Airlines often have a committed bank facility to supplement internal cash holdings, but general-purpose bank lines are a less important factor in our analysis of airlines than for most industrial companies. This is partly because most airline debt takes the form of debt or lease financing of individual aircraft, and because the financial covenants in a general-purpose bank line can make its availability uncertain. Airlines, whose financial performance can be volatile and cyclical, accordingly often have relied instead mostly on cash holdings.
76. U.S. airlines have used public capital markets to a greater extent than airlines elsewhere. This access to public markets, while not always available, has been more consistent for airlines than for many other types of companies of similar credit quality. That is because the bonds are secured by aircraft, which can be repossessed from a bankrupt airline and sold in a global market.
77. Also, aircraft financing in the U.S. benefits from a special provision of the U.S. Bankruptcy Code, Section 1110. This section provides that an airline filing for Chapter 11 reorganization cure any payment defaults on aircraft debt or leases within 60 days of filing, and agree to service the obligations going forward, or the lessor or creditor can repossess the aircraft. In our view, this provision generally should provide more timely and certain access to collateral than is available to creditors financing most other assets in the U.S. The benefits of Section 1110 are available to various types of creditors, including bondholders, banks, and leasing companies. The principal form of public financing for U.S. airlines since the early 1990's has been "enhanced equipment trust certificates". These are securities secured, indirectly, by loans or leases on a portfolio of aircraft used by an airline. Non-U.S. airlines have infrequently issued enhanced equipment trust certificates.
78. Since 2006, a number of countries have entered into a treaty and related aircraft protocol commonly known as the "Cape Town Convention". A stated purpose of the Cape Town Convention is to facilitate asset-based financing and leasing of aircraft by establishing (among other things) an international legal framework for standardizing the treatment of interests in aircraft in insolvency proceedings. Nations that enter into the Cape Town Convention have the option to elect a remedies provision similar to U.S. Section 1110.
79. Leasing as a means of financing can take several forms for airlines. They may lease planes directly from a leasing company (usually medium-term operating leases); currently these are used more extensively in Europe, Asia, and Latin America than in the U.S. Longer-term capital leases historically have been more common in the U.S. Typically in these leases, an equity investor who is able to derive tax benefits from owning an aircraft establishes and funds an entity, often a trust, to acquire and lease an aircraft to the airline. When the entity funds a portion of the acquisition price through a debt issuance, this financing structure is called a "leveraged" lease. Many enhanced equipment trust certificates issued by U.S. airlines included leveraged leases as the underlying aircraft financing transactions. Leveraged leasing generally has become less common as a source of capital for airlines in recent years, in part

because of tax law changes in various jurisdictions and reduced demand by equity investors.

80. Sale of equity, as for other companies, depends on market conditions and investors' perceptions of the business and financial prospects of the issuers. Airline share prices often have been more volatile than those for many other types of companies. Accordingly, and because of the scale of airline capital needs, sale of common shares or convertible debt has not tended to be a major source of financing for airlines.

## **Related Criteria And Research**

- CreditMatters TV video titled, "How Standard & Poor's Rates The Global Airline Industry," dated Dec. 2, 2010
- 2008 Corporate Criteria: Analytical Methodology, April 15, 2008
- Criteria: Principles of Corporate and Government Ratings, June 26, 2007

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