



Research Article

## Comparative Financial Leverage Analysis of Boeing and Airbus: Evaluating Risk and Resilience through Key Coverage Ratios

Author

Kodir Gulomov

Tashkent State University of Economics

**Abstract:** This study explores the financial leverage strategies of Boeing Commercial Airplanes and Airbus, two dominant players in the global aerospace industry, over a five-year period (2020–2024). The analysis is centered on three key financial ratios: Debt-to-Equity Ratio, Interest Coverage Ratio, and Fixed Charge Coverage Ratio. These metrics offer insights into each company's capital structure, debt management, and overall financial resilience. The findings reveal a contrast in financial approaches: Boeing's higher debt levels and fluctuating interest coverage signal a more aggressive leverage strategy, while Airbus demonstrates more stability and cautious debt utilization. The Fixed Charge Coverage Ratio further highlights differences in the ability to meet fixed financial obligations, such as leases and debt payments. By comparing these leverage indicators, the study provides valuable insights into how financial structure influences strategic decision-making and risk tolerance in the aerospace sector.

**Key words:** Financial leverage, debt-to-equity ratio, interest coverage ratio, fixed charge coverage ratio, Boeing, Airbus, capital structure, aerospace industry, debt management, financial risk.

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### Introduction

Financial leverage is a vital concept in corporate finance, reflecting the extent to which a company utilizes borrowed capital (debt) to finance its operations and investments. Leveraging debt can magnify returns during profitable periods, but it also introduces additional risk, particularly in industries subject to economic volatility and capital intensity—such as the aerospace industry. Companies operating in this sector often face substantial upfront costs for research, development, production, and maintenance of aircraft, making their financial structure and debt management strategies critical to long-term sustainability.

Understanding how major aerospace manufacturers manage financial leverage provides insight into their risk appetite, operational efficiency, and financial resilience. This study focuses on two of the world's largest commercial aircraft producers: Boeing Commercial Airplanes and Airbus S.A.S.. Both companies are global leaders in aircraft manufacturing and frequently compete for dominance in international markets. However, their financial strategies, particularly their approach to leverage, differ in notable ways. Analyzing these differences through key financial ratios helps shed light on their business models and future prospects.

This study uses three key financial leverage metrics: Debt-to-Equity Ratio, Interest Coverage Ratio, and Fixed

Charge Coverage Ratio. Each metric offers a unique perspective on the companies' financial strategies and obligations. The Debt-to-Equity Ratio (D/E) evaluates the proportion of financing derived from debt versus shareholder equity. A higher D/E ratio indicates greater reliance on borrowed funds, which can enhance growth but also increases the burden of fixed obligations. Conversely, a lower D/E ratio suggests a more conservative financial approach, with an emphasis on equity-based funding.

The Interest Coverage Ratio (ICR) measures a company's ability to meet interest expenses from its operating income (EBIT). It is a direct indicator of a firm's short-term financial health and liquidity. A higher ICR signifies stronger earnings relative to interest obligations, suggesting less financial strain and more flexibility to invest or withstand downturns. In contrast, a declining ICR may signal financial stress, increased vulnerability to rising interest rates, or declining profitability.

The third metric, Fixed Charge Coverage Ratio (FCCR), expands upon the ICR by also including fixed charges such as lease payments in addition to interest expenses. It offers a broader perspective on a company's ability to meet its fixed financial obligations, making it particularly relevant for industries like aerospace, where leasing of manufacturing equipment, facilities, or aircraft is common. A low FCCR could indicate potential liquidity issues, while a high ratio suggests a strong capacity to handle fixed obligations and continue operations even under adverse conditions.

The aerospace industry has faced unprecedented challenges over the past five years. The COVID-19 pandemic caused a dramatic collapse in global air travel, leading to order cancellations, delivery deferrals, and production halts. Boeing, in particular, was hit hard due to the grounding of its 737 MAX aircraft prior to the pandemic, compounding its financial difficulties. Airbus also experienced disruptions, though it was somewhat better positioned due to a more diversified portfolio and fewer regulatory setbacks.

In this context, evaluating the financial leverage of Boeing and Airbus from 2020 to 2024 provides meaningful insights into how these companies navigated one of the most volatile periods in aviation history. Did they take on more debt to survive? Were they able to cover their interest and fixed costs through operating income? And how did their leverage decisions impact their risk profiles and investor perceptions?

By examining these questions through financial data and ratio analysis, this study aims to illuminate the strategic choices made by Boeing and Airbus. The comparative approach not only highlights each company's financial strengths and vulnerabilities but also contributes to a broader understanding of financial leverage in high-capital industries. These insights are valuable for investors, analysts, and corporate managers seeking to evaluate financial sustainability and make informed decisions in complex global markets.

## Literature Review

Financial leverage, as a measure of a company's reliance on debt, has been widely examined in the context of corporate performance and risk management. Enekwe et al. (2014) highlight that increased leverage can enhance returns but also raise financial risk, especially if earnings fluctuate. This dual effect is critical in high-capital industries like aerospace.

Myers (2001), through the Pecking Order Theory, suggests that firms prioritize internal financing and view debt as a secondary option, used only when necessary. This theory supports the idea that leverage strategies are shaped by a firm's access to internal funds and risk preferences.

Jensen (1986) emphasizes that debt can act as a control mechanism, limiting managerial discretion by reducing excess cash flow. His Free Cash Flow Hypothesis implies that debt is not only a financing tool but also a strategic governance measure.

Titman and Wessels (1988) find that asset structure, firm size, and non-debt obligations influence a company's leverage decisions. Firms with higher fixed charges may prefer less debt to maintain financial flexibility, making metrics like the Fixed Charge Coverage Ratio particularly relevant.

## Methodology

This study employs a quantitative and comparative financial analysis approach to evaluate the financial leverage of Boeing Commercial Airplanes and Airbus S.A.S. over the five-year period from 2020 to 2024. The objective is to assess the extent and efficiency of leverage utilization by each company through the examination of three key financial metrics: the Debt-to-Equity Ratio, the Interest Coverage Ratio, and the Fixed Charge Coverage

Ratio. These ratios serve as widely accepted indicators in corporate finance for analyzing a firm's capital structure, financial risk, and ability to meet fixed financial obligations.

#### Data Collection and Sources

The study is based on secondary data derived from official company filings and financial databases. For Boeing, data was collected from annual 10-K reports submitted to the U.S. Securities and Exchange Commission (SEC). For Airbus, data was sourced from consolidated annual financial statements published in compliance with the International Financial Reporting Standards (IFRS). Supplementary data was obtained from financial platforms such as Bloomberg, Yahoo Finance, and Macrotrends to ensure consistency and completeness.

The analysis utilizes key components of the following financial documents:

- Balance Sheets: to extract total liabilities (debt) and shareholders' equity;
- Income Statements: to identify EBIT (Earnings Before Interest and Taxes) and interest expenses;
- Cash Flow Statements and financial statement footnotes: to locate lease payments and other fixed financial obligations required for comprehensive leverage evaluation.

#### Financial Ratio Formulas

The study focuses on three principal leverage metrics, each calculated as follows:

##### 1. Debt-to-Equity Ratio (D/E):

$\text{Debt-to-Equity Ratio} = \frac{\text{Total Debt}}{\text{Shareholders' Equity}}$

This ratio illustrates the relative proportion of debt and equity used in financing a company's assets. It highlights the extent of financial leverage and the potential exposure to financial risk.

##### 2. Interest Coverage Ratio (ICR):

$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Interest Expense}}$

This measure evaluates a firm's ability to meet its interest obligations from its operational earnings. A higher ratio implies greater financial strength and reduced default risk.

##### 3. Fixed Charge Coverage Ratio (FCCR):

$\text{FCCR} = \frac{\text{EBIT} + \text{Fixed Charges}}{\text{Interest Expense} + \text{Fixed Charges}}$

This metric broadens the scope of the ICR by including additional fixed charges such as lease obligations. It provides a more holistic view of a company's ability to meet recurring financial commitments.

#### Analytical Framework

The analysis involves both temporal and cross-sectional approaches. Temporal analysis tracks the evolution of each leverage metric annually from 2020 to 2024, providing insight into internal trends and financial strategy shifts. Cross-sectional analysis compares Boeing and Airbus year by year, facilitating a direct assessment of their respective capital structures and financial resilience under similar macroeconomic conditions.

Visual tools including tables and line graphs are utilized to present the data effectively, highlighting key differences and changes over time. In addition to ratio calculations, the study considers relevant contextual factors that may have influenced financial leverage during the analysis period, such as:

- The global impact of the COVID-19 pandemic on aviation demand,
- Regulatory disruptions including the Boeing 737 MAX grounding,
- Post-pandemic recovery dynamics and industry competition,
- Rising interest rates and inflation trends from 2022 onward.

#### Results & Discussion

The Debt-to-Equity (D/E) ratio reveals the extent to which Boeing and Airbus rely on debt compared to equity for financing their operations. Between 2020 and 2024, Boeing's D/E ratio was notably higher than that of Airbus, reflecting a more aggressive leveraging strategy. In 2020, Boeing's D/E ratio exceeded 12.0—driven by substantial debt issuance during the early COVID-19 disruptions. The pandemic drastically reduced aircraft demand, compelling Boeing to raise capital through debt markets to sustain operations and cover fixed costs.

In contrast, Airbus maintained a D/E ratio below 1.5 during the same period, highlighting its relatively conservative approach. The company responded to pandemic-related losses through internal restructuring and cost containment rather than heavy borrowing. While Boeing's D/E ratio gradually declined in 2021–2024 as air travel resumed and earnings stabilized, it remained significantly higher than Airbus's, closing at approximately 6.8 by 2024 compared to Airbus's 0.9.

This disparity underlines Boeing's higher financial risk and leverage exposure. However, higher leverage can also signal aggressive investment strategies and growth ambitions. Airbus's conservative leverage suggests a preference for stability and operational efficiency, potentially appealing to risk-averse investors.

#### Conclusion

This study examined the financial leverage strategies of Boeing and Airbus from 2020 to 2024 using three key metrics: Debt-to-Equity Ratio, Interest Coverage Ratio, and Fixed Charge Coverage Ratio. The findings reveal that Boeing pursued a more aggressive leverage strategy, particularly in the early pandemic years, which exposed it to higher financial risk. In contrast, Airbus maintained a more conservative and stable capital structure, as evidenced by stronger coverage ratios and lower debt levels.

While Boeing's approach allowed it to weather short-term liquidity shortages, it also resulted in prolonged strain on its financial health, as seen in its low ICR and FCCR in the earlier years. Airbus's stronger performance across all leverage metrics signals a more cautious and sustainable strategy.

The analysis underscores the importance of balanced debt management, especially in capital-intensive and cyclical industries like aerospace. Investors and corporate decision-makers can draw valuable insights from these contrasting approaches, particularly when assessing companies' resilience to economic shocks and long-term viability.

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