

The Impact of Current Lease Standards on Airlines: A Case Study of X Airlines

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Abstract: With the implementation of International Financial Reporting Standard 16(IFRS 16)and Chinese new lease standards, the capitalization of operating leases has had a significant impact on airlines' financial performance and operational management. Taking X Airlines as an example, this paper focuses on the transformation in the accounting treatment of aircraft leases under the new standards and explores their ripple effects on financial statements, key financial indicators, and corporate strategy. The study finds that following the implementation of the standards, X Airlines' debt-to-equity ratio rose significantly, and profitability metrics such as EBITDA were passively optimized. However, actual debt service pressure and financing costs increased, posing potential challenges to the company's credit rating and financing capacity. The study further proposes that airlines need to strengthen risk management of lease contracts and balance off-balance-sheet financing with capital structure stability, while recommending that regulatory authorities pay attention to the industry-specific applicability of the standards. The conclusions of this paper provide practical references for aviation enterprises to respond to changes in accounting standards and optimize resource allocation.

1. Introduction

1.1 Research Background

With the introduction of IFRS 16, China's accounting standards have also been adjusted: the Accounting Standards Committee of the Ministry of Finance(CASC) completed the revision of CAS 21 in 2018 and required enterprises involved in overseas listings to implement CAS 21(2018)starting in 2019 while other enterprises began implementation in 2021[1]. Shen notes that International Financial Reporting Standard 16(IFRS 16),introduced by the International Accounting Standards Board(IASB)in 2016 requires lessees to recognize almost all lease contracts as assets and liabilities on the balance sheet, thereby ending the long-standing practice under previous standards of operating leases remaining off-balance-sheet[2]. Centered on the "right-of-use asset" model, this reform aims to eliminate the distortion of financial information caused by off-balance-sheet financing and enhance the transparency of enterprises' debt repayment risks. To align with international trends, China's Ministry of Finance issued the revised "Enterprise Accounting

Standard No.21—Leases” in 2018. Building on the framework of IFRS 16, the standard incorporates China’s specific circumstances to establish differentiated provisions regarding land use right leases and discount rate selection, demonstrating governance wisdom that combines international accounting standards with local practices[3].

Due to its capital-intensive and highly leveraged nature, the aviation industry has become a typical impact areas of the lease standard reforms. Taking X Airlines as an example, the proportion of aircraft under operating leases in its fleet has remained above 60% for a prolonged period. While this “asset-light” operating model reduces initial capital investment, it enables a large amount of lease debt to be concealed off-balance-sheet. The implementation of the new standard has directly overturned this traditional logic: the capitalization of operating leases has led to a sharp expansion of the company’s balance sheet.

The implementation of the new leasing standards represents not only a technical innovation in accounting but also a significant external force driving strategic transformation in the aviation industry. By focusing on the case of X Airlines and conducting an in-depth analysis of how the standard changes impact corporate financial statements, financing environments, and fleet management strategies, this study provides empirical evidence for the continuous optimization of China’s leasing standards and international harmonization. It holds dual value for improving the regulatory framework and enhancing corporate risk management capabilities.

1.2 Research Significance

As a strategic industry supporting national economic development, the healthy operation of the air transport sector is directly linked to the efficiency of social resource circulation and the capacity to ensure public services. The implementation of the new lease standards not only reshapes the industry’s financial ecosystem but also brings about systemic changes to the value assessment system of aviation enterprises. On the one hand, the full on-balance-sheet treatment of operating leases eliminates the opacity of off-balance-sheet financing; by making implicit debt explicit, it enhances the credibility of financial statements, helping investors more accurately identify a company’s true debt-repayment capacity. On the other hand, the implementation of a unified accounting model for lessees disrupts the traditional valuation logic of lease-versus-purchase decisions, requiring appraisers to deeply understand the mechanisms by which standard changes affect cash flow distribution, capital structure, and risk premiums. Furthermore, changes in the standards—such as the refinement of lease recognition rules and the expansion of contract splitting provisions—have objectively broadened the scope of valuation work. This shift propels enterprise valuation from a single-dimensional asset pricing approach toward a multidimensional risk analysis, injecting new momentum into theoretical and practical innovation.

2. Theoretical Foundation and Institutional Background: Overview of the New Lease Standards

2.1 The Evolution of Lease Standards

The reform of lease accounting standards represents a significant practice in the global accounting system’s pursuit of transparency regarding economic substance. At the international level, IAS 17 first established a lease classification framework in 1982, categorizing leases into finance leases (recognized on-balance-sheet) and operating leases (treated off-balance-sheet). However, this classification gradually revealed the drawbacks of “off-balance-sheet financing”—industries with heavy reliance on leases, such as aviation, used operating leases to conceal massive liabilities, severely distorting financial statements. To fundamentally address this issue, the IASB

and FASB jointly proposed the concept of “right-of-use assets” in 2010 and formally issued IFRS 16 in 2016. Liu Zhuozhuo[4-5] argues that current lease standards require lessees to recognize all leases(except short-term and low-value leases) as “right-of-use assets” and “lease liabilities” on the balance sheet, thereby completely eliminating the gray area of off-balance-sheet financing.

The revision of Chinese standards, however, has followed a path of “gradual alignment”. The first edition of the leasing standards in 2001 initially introduced the international framework but did not address the issue of off-balance-sheet financing; the 2006 revised edition, while converging with IAS 17, retained the dual-classification model. It was not until 2018 that, in response to IFRS 16 and to adapt to the complexities of the domestic economy, the Ministry of Finance issued the new "Enterprise Accounting Standard No.21—Leases". The core breakthroughs lie in the elimination of lessee classification and the adoption of a unified right-of-use model, while retaining special treatment for land use right leases, reflecting a balance between international harmonization and local needs.

2.2 Comparative Analysis of the New and Old Lease Standards

The differences between the new and old lease standards essentially represent an iterative upgrade in the understanding of the economic substance of lease transactions. The old standards(such as IAS 17 and the 2006 version of CAS 21) mechanically divided leases into operating leases and finance leases, creating a “dual-track system” of on-balance-sheet and off-balance-sheet treatment. Lessees were only required to recognize finance lease assets and liabilities on the balance sheet, while long-term rental commitments under operating leases needed only to be disclosed in the notes, resulting in a large volume of substantive liabilities remaining off the balance sheet. Taking the aviation industry as an example, under the old standards, Airline X held over 60 of its fleet through operating leases. Neither the related aircraft assets nor the future lease payment obligations were reflected on the balance sheet, resulting in off-balance-sheet hidden liabilities of as much as 12 billion yuan in 2018 and an underestimation of its debt-to-equity ratio by nearly 15 percentage points. While this accounting treatment may temporarily beautify financial metrics, it obscures the company’s true debt repayment pressure and undermines investors’ ability to assess risk.

The core breakthrough of the new standards[IFRS 16 and CAS 21(2018)] lies in the adoption of the “right-of-use model”, which eliminates lease classification on the lessee’s side and requires that virtually all lease contracts be uniformly recognized as “right-of-use assets” and “lease liabilities”. This transformation directly addresses the essence of leasing—the lessee obtains control over the right to use an asset by paying rent, regardless of the lease form, its economic substance constitutes a long-term financial.

3. Overview of the X Airlines Case

3.1 Overview of the Development of Aircraft Leasing at Home and Abroad

Since its inception in the 1960s, the global aircraft leasing industry has become a core component of the aviation supply chain. Internationally, the European and American markets have long held a dominant position. By 2024, the global market size reached \$221.84 billion, expanding at a compound annual growth rate of 7.8%. Following United Airlines’ pioneering of modern aircraft leasing in 1960, the industry has gradually evolved into a competitive landscape centered on giants such as AerCap and GECAS, with 85% of the top 20 leasing companies originating from Europe and the United States.

As a rising star in the industry, China has experienced rapid growth since introducing aircraft

leasing in the 1980s. By 2025, the market size is projected to exceed \$130 billion, with a leasing penetration rate surpassing 60%. Driven by government policies, the Dongjiang Bonded Port Zone has become the world’s second-largest hub for aircraft leasing, attracting 19 leading companies such as AerCap and China Aviation Leasing. It has delivered a cumulative total of 140 aircraft and is promoting the export of domestically produced aircraft through the “offshore subleasing” model. Domestic leasing companies such as ICBC Leasing and BOC Aviation have enhanced their competitiveness through asset securitization and international mergers and acquisitions (e.g.,BOC Leasing signed contracts for 77 new aircraft in 2024), gradually breaking the foreign monopoly. However, the industry still faces challenges such as tightening tax rebate policies and a lack of diverse financial instruments, requiring the exploration of new pathways through fleet management innovation (e.g., the circular economy of dismantling old aircraft) and the internationalization of RMB settlement.

3.2 Overview of X Airlines Case Study

3.2.1 Company Profile

X Airlines Co.,Ltd.(hereinafter referred to as “X Airlines”) is a privately owned airline established in June 2005. The company officially commenced operations in September 2006 and listed on the A-share market in May 2015, becoming the second privately owned airline to go public in China. As of 2024, X Airlines operates a dual-fleet system centered on 92 Airbus A320 series aircraft and 8 Boeing 787-9 Dream liners, serving over 200 routes across China and Asian and European countries, with an annual passenger volume exceeding 25 million. Strategic Positioning itself as an “HVC(High-Value Carrier)”, the company has been recognized for multiple consecutive years as Skytrax’s “Best Regional Airline in Chinese mainland” and ranked among the “Top 500 Brands in Asia”. It also completed the first “carbon-neutral” themed flight by a Chinese private airline, demonstrating its comprehensive capabilities in safety, service, and sustainable development.

3.2.2 Overview of X Airlines’ Main Business Operations

In 2021, the company achieved operating revenue of RMB 11.767 billion, a year-on-year increase of 16.49%. Of this, passenger revenue amounted to RMB 11.107 billion, accounting for 94.39% of operating revenue; cargo revenue was RMB 509 million, accounting for 4.32% of operating revenue. For the full year, net profit attributable to shareholders of the listed company was RMB -498 million.

X Airlines’ key financial data for the past three years is shown in the table 1 below:

Table 1: Key Financial Data for X Airlines over the Past Three Years (RMB)

| Key Financial Data | 2021 | 2020 | Change from Same Period Last Year(%) | 2019 |
|---|-------------------|-------------------|--------------------------------------|-------------------|
| Revenue | 11,767,107,904.77 | 10,101,552,077.97 | 16.49 | 16,749,412,414.17 |
| Revenue Excluding Income from Non-Core Operations and Income Lacking Commercial Substance | 11,672,492,995.80 | 10,056,676,880.67 | 16.07 | / |

| | | | | |
|---|-----------------------|-------------------|---|-------------------|
| Net income Attributable to shareholders of the listed company | (497,613,870.35) | -473,783,520.86 | N/A | 994,470,115.82 |
| Net Income Attributable to Shareholders of the Listed Company, Excluding Non-recurring Gains and Losses | -665,783,540.13 | -670,968,698.67 | N/A | 904,467,113.70 |
| Net cash flow from operating activities | 1,556,853,730.88 | 612,652,822.19 | 154.12 | 2,736,747,856.15 |
| | As of the end of 2021 | End of 2020 | Change from the end of the same period last year(%) | End of 2019 |
| Net assets attributable to shareholders of the listed company | 10,055,596,692.25 | 10,851,180,750.12 | -7.33 | 12,899,030,625.63 |
| Total Assets | 43,858,577,713.76 | 32,308,473,657.89 | 35.75 | 33,138,177,135.45 |

3.2.3 Overview of X Airlines' Leased Aircraft

As of December 31, 2021, the company owned 82 Airbus A320 series aircraft and 6 Boeing B787 series aircraft. The company's subsidiary, Y Airlines, actually operates 22 aircraft, all of which are Boeing 737 series aircraft.

X Airlines' Fleet Distribution in 2021 is shown in the table 2 below:

Table 2: X Airlines' Fleet Distribution in 2021

| Acquisition Method | Aircraft Model | Number | Average Age |
|--------------------|----------------|--------|-------------|
| Purchased | A320 family | 17 | 9.37 |
| Purchased | B787 series | 3 | 2.96 |
| Finance Lease | B787 Series | 3 | 2.55 |
| Finance Lease | A320 Series | 19 | 2.95 |
| Operating Lease | A320 Series | 46 | 5.79 |
| Owned | B737 Series | 2 | 4.56 |
| Finance Leasing | B737 Series | 1 | 5.47 |
| Operating Lease | B737 Series | 19 | 6.29 |
| Total | — | 110 | 5.75 |

4. Case Study of X Airlines

4.1 Accounting Treatment under the New and Old Standards

Under the old lease standards (such as IAS 17), lease transactions were classified into operating leases and finance leases. For operating leases, only rental expenses were recognized in the income statement using the straight-line method, with neither assets nor liabilities appearing on the balance sheet. For example, aircraft acquired by X Airlines through operating leases were expensed solely as "rental fees", keeping off-balance-sheet liabilities hidden for an extended period. Finance leases,

on the other hand, required the recognition of leased assets and long-term payables, as well as the accrual of depreciation and interest expenses. This “dual-track system” allowed companies to manipulate financial metrics through lease classification, thereby reducing on-balance-sheet leverage.

Under the new leasing standards (IFRS 16 / CAS 21), the classification of leases for lessees is eliminated, and the "right-of-use model" is adopted. All leases (except for short-term leases and low-value assets) must be recognized as “right-of-use assets” and “lease liabilities”.

4.2 Changes in Financial Statement Presentation

X Airlines has implemented “Enterprise Accounting Standard No.21—Leases” (revised in 2018 by the Ministry of Finance) effective January 1,2021.

X Airlines’ Balance Sheet under the Old and New Standards is shown in the table 3 below:

Table 3: X Airlines’ Balance Sheet under the Old and New Standards (in RMB)

| Item | December 31,2020 | January 1,2021 | Adjustment |
|-------------------------|-------------------|-------------------|------------------|
| Current Assets | 4,318,362,975.88 | 4,203,446,070.21 | -114,916,905.67 |
| Non-current assets | 27,990,110,682.01 | 36,069,221,142.55 | 8,079,110,460.54 |
| Right-of-use assets | | 12,890,233,190.76 | |
| Total assets | 32,308,473,657.89 | 40,272,667,212.76 | 7,964,193,554.87 |
| Current Liabilities | 11,345,781,769.75 | 12,504,942,538.91 | 1,159,160,769.16 |
| Non-current liabilities | 10,078,310,492.52 | 17,180,212,896.55 | 7,101,902,404.03 |
| Lease liabilities | | 10,875,238,519.60 | |
| Total Liabilities | 21,424,092,262.27 | 29,685,155,435.46 | 8,261,063,173.19 |

As shown in the data above, X Airlines’ balance sheet has been significantly impacted by the new lease standards, with a negative adjustment to current assets and asset growth clearly outpacing the growth in current assets.

The year-end increase compared with the prior period was mainly due to the airline’s adoption of the new leasing standard, under which leased assets were recognized as right-of-use assets. Similarly, the year-over-year increase in lease liabilities at the end of the current period compared to the end of the previous period is also due to X Airlines’ adoption of the new lease standards, leading to the recognition of finance and operating lease liabilities.

Analysis of Changes in Relevant Items in the Income Statement and Cash Flow Statement is shown in the table 4 below

Table 4: Analysis of Changes in Relevant Items in the Income Statement and Cash Flow Statement

| Account | Current Period | Prior-Year Figure | Change(%) |
|--|-------------------|-------------------|-----------|
| Revenue | 11,767,107,904.77 | 10,101,552,077.97 | 16.49 |
| Cost of sales | 11,779,673,536.35 | 10,273,254,651.05 | 14.66 |
| Selling expenses | 452,524,874.27 | 425,351,586.61 | 6.39 |
| General and administrative expenses | 512,487,398.64 | 455,613,184.38 | 12.48 |
| Financial Expenses | 540,206,562.36 | 375,227,667.10 | 43.97 |
| Research and development expenses | 79,081,438.71 | 48,539,274.75 | 62.92 |
| Net Cash Flow from Operating Activities | 1,556,853,730.88 | 612,652,822.19 | 154.12 |
| Net cash flow from investing activities | -1,998,678,243.68 | -589,624,594.00 | N/A |
| Net cash flows from financing activities | -14,561,160.90 | 258,968,940.69 | -105.62 |

In X Airlines' 2021 annual report, it was disclosed that changes in financial expenses and net cash flows from financing activities were primarily influenced by the new lease standards, while changes in net cash flows from investing activities were attributed to the purchase of investments for production and operations during the current year.

4.3 Impact of the New Standard on Financial Performance

On January 1, 2021, X Airlines officially implemented the revised "Enterprise Accounting Standard No.21—Leases" by the Ministry of Finance. The core change in this standard lies in the comprehensive inclusion of operating leases in on-balance-sheet accounting, which has had a multidimensional impact on the company's financial performance metrics. From the perspective of the balance sheet, the new standard requires the recognition of "right-of-use assets" and "lease liabilities", resulting in a one-time increase of 8.076 billion yuan in the company's opening total assets and an increase of 8.603 billion yuan in total liabilities. The debt-to-equity ratio rose from 66.31% to 74.35%, an increase of 8.04 percentage points, significantly raising the level of financial leverage. Specifically, right-of-use assets now account for 35.19% of total assets, while lease liabilities represent 28.46% of total liabilities, altering the original asset structure. At the same time, non-current liabilities due within one year nearly doubled, and combined with a 153.87% year-over-year increase in deferred tax assets, this further intensified short-term debt repayment pressure. In 2021, the current ratio and quick ratio continued their declining trend for five consecutive years. On the income statement, interest expenses on lease liabilities, calculated using a 4.9% discount rate, reached 449 million yuan. Combined with increased depreciation costs of right-of-use assets, this led to a significant rise in operating costs, exerting dual pressure on net profit.

Although lease interest expenses are tax-deductible, depreciation expenses are not, which complicates the tax burden structure and increases profit volatility. As a result, return on equity(ROE) and return on assets(ROA) have continued to decline under the dual pressures of the pandemic and the new accounting standards. Furthermore, regarding operational efficiency, the inclusion of right-of-use assets in total assets, combined with business volume suppressed by the pandemic, has led to a further decline in total asset turnover. Although inventory and accounts receivable turnover rates have rebounded slightly due to business recovery, the primary drivers of this recovery were largely unrelated to the new lease standards. In terms of cash flow, although operating cash flow has not been directly affected, increased cash outflows from interest payments may constrain free cash flow. Overall, while the new standards have improved the transparency of on-balance-sheet liabilities and the accuracy of the asset structure, they have also exposed high debt risks. This compels the company to place greater emphasis on optimizing lease-verse-purchase structures, diversifying financing channels, and strengthening cost control during fleet expansion to achieve long-term financial stability.

5. Conclusions and Outlook

5.1 Conclusion

The implementation of the new leasing standards has produced significant and complex chain reaction on X Airlines' financial performance and strategic decision-making. On January 1,2021, with the formal implementation of "Enterprise Accounting Standard No. 21—Leases", X Airlines' operating lease aircraft assets and liabilities were fully recognized on the balance sheet. The implementation of the new lease standards has fundamentally transformed the accounting treatment of airlines' leasing operations, exerting a profound impact on their financial performance and operational management.

In terms of financial statements, X Airlines' balance sheet size expanded dramatically and its debt-to-asset ratio rose significantly due to the capitalization of operating leases. From a financial performance perspective, while the new standard has enhanced the transparency of on-balance-sheet liabilities and the accuracy of the asset structure, it has also exposed the company's high debt risks. In terms of operational management, the new standard has enabled X Airlines to optimize its leasing decisions, driving a transformation of its fleet structure from a "primarily operating leases" model to a flexible combination of "operating leases+finance leases+direct purchases." By shortening lease terms and other measures, the company has balanced on-balance-sheet leverage with operational flexibility.

However, the implementation of the new standards has also presented the company with practical challenges, such as increased complexity in cross-border financial coordination and reduced data comparability due to the reliance on subjective parameters in measuring lease liabilities. At the same time, highly leveraged industries face shocks to market confidence, such as rising financing costs and credit rating downgrades.

5.2 Outlook

As the global economy becomes increasingly interconnected, competition in the aviation industry is intensifying, and changes in leasing regulations will continue to impact airline operations. Future exploration can proceed in several directions: First, leasing regulations need to better balance international uniformity with the practical needs of the industry. Accounting regulatory bodies in different countries can enhance communication and collaboration to reduce regulatory disparities, thereby making it easier for airlines to manage cross-border operations.

Two future trends in the industry warrant attention: First, digital technologies will make leasing operations more transparent and efficient. For example, electronic contracts can automate rental payments, while virtual models can simulate the entire life cycle of an aircraft to aid in assessing its value. Second, environmental requirements are driving the development of green leasing. Airlines will place greater emphasis on aircraft fuel efficiency, and lease contracts may be linked to carbon emissions—for instance, offering lower lease rates for more fuel-efficient aircraft. These changes will prompt the industry to shift from "leasing more aircraft" to "leasing better aircraft", aligning with environmental trends while improving operational efficiency.

In summary, airlines must keep pace with changes in international regulations while identifying the most suitable strategies based on their specific circumstances. Regulatory authorities, like road pavers, need to pave the way for businesses by offering transitional policies and simplifying complex provisions. In the future, if new technologies can resolve long-standing issues and eco-friendly principles can drive innovation, the aviation industry will be able to identify new development opportunities amid regulatory shifts.

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