

**IFRS 16 and the Presentation of Financial Statements:
Evidence from Lufthansa Group's 2018–2019 Transition**

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Abstract:

This study looks at what changed in financial reporting when IFRS 16 Leases became effective for Lufthansa Group in 2019. The focus is not only on the accounting rule itself, but on what the change did to the numbers that investors and other users see in the financial statements. Lufthansa provides a useful case because it has a large amount of leased aircraft, airport infrastructure, offices, and other equipment. Using Lufthansa's 2018 and 2019 annual reports, together with the IFRS Foundation's description of IFRS 16 and previous academic research, the study compares the reported balance sheet before and after the transition and isolates the disclosed first-time IFRS 16 amounts. The results show a clear increase in recognized assets and lease liabilities. At 1 January 2019, Lufthansa recognized €1.951 billion of right-of-use assets and €1.958 billion of new lease liabilities from IFRS 16. By 31 December 2019, the first-time IFRS 16 effect included €2.364 billion of right-of-use assets and €2.386 billion of lease liabilities. Lufthansa also reported that the accounting change reduced its equity ratio by about 1.5 percentage points. The case therefore shows how an accounting standard can change the presentation and interpretation of financial statements even when the underlying lease contracts and cash commitments are not suddenly new. The study is descriptive and does not claim that IFRS 16 caused changes in Lufthansa's overall business performance.

Keywords:

IFRS 16, lease accounting, financial reporting, right-of-use assets, lease liabilities, financial ratios, Lufthansa Group

Introduction:

Lease accounting became a major financial reporting issue because operating leases were historically treated differently from finance leases under IAS 17. For many operating leases, the future payment commitments were disclosed in the notes while the related asset and liability were not recognized in the same way as finance leases. IFRS 16 changed this approach for lessees. The standard became effective for annual reporting periods beginning on or after 1 January 2019 and generally requires recognition of a right-of-use asset and a lease liability for leases longer than 12 months, except for permitted exemptions such as low-value assets and short-term leases. (IFRS Foundation, 2024).

This matters for financial reporting because the accounting model changes the statement of financial position. A company can report higher assets and higher liabilities after adopting IFRS 16 even though the company has not suddenly borrowed cash to buy new assets. The change can also affect financial ratios and the way lenders, investors, and analysts interpret leverage and profitability. Previous research has therefore studied whether bringing lease obligations onto the balance sheet changes the usefulness and comparability of reported information.

Lufthansa Group is a useful case for this question. The airline group has significant leasing activity involving aircraft, airport infrastructure, hangars, offices, and other equipment. In its 2019 annual report, Lufthansa stated that total assets increased to €42.659 billion from €38.213 billion in 2018 and specifically identified IFRS 16 as an important reason for the increase. (Lufthansa Group, 2020).

The main research question is: How did the first-time application of IFRS 16 change the reported financial position and selected financial-reporting indicators of Lufthansa Group?

The objectives are to: (1) identify the IFRS 16 accounting changes relevant to a lessee; (2) measure the disclosed increase in recognized right-of-use assets and lease liabilities at transition; (3) compare selected 2018 and 2019 financial statement indicators; (4) calculate a simple adjusted equity ratio to show the mechanical effect of the disclosed IFRS 16 right-of-use assets; and (5) discuss what the changes mean for users of financial statements.

Literature Review:

The basic idea behind IFRS 16 is that a lease creates an economic right to use an asset and an obligation to make payments. The IFRS Foundation explains that IFRS 16 uses a single lessee accounting model and requires recognition of assets and liabilities for most leases. The lessee recognizes a right-of-use asset and a lease liability, with exemptions for short-term and low-value leases. (IFRS Foundation, 2024).

The move from IAS 17 to IFRS 16 has been discussed extensively in accounting research. Van Kints and Spoor (2019) examined whether bringing operating leases onto the balance sheet improves the quality of investment financing decisions. Their results suggest that the new accounting treatment can improve decision quality, although it does not necessarily make the decision process easier for professional users of financial information.

Earlier research also predicted that capitalization of operating leases would change important financial ratios. Morales-Díaz and Zamora-Ramírez (2018) modelled the consequences of operating lease capitalization and found that leverage and liquidity measures could change

materially, while the effect on profitability depends on the ratio and the circumstances. Their study is useful because it shows why accounting presentation can matter even when the underlying economics of a lease have not changed.

More recent evidence is useful because it moves beyond estimated capitalization. Lopes and Penela (2025) studied actual implementation data and found statistically significant changes in assets, liabilities, EBIT, EBITDA, financial expenses, and several financial ratios following IFRS 16 implementation. They also found a statistically significant effect on ROA, while interest coverage did not show a statistically significant change in their sample.

Recently, transition must have become easier given the surge in AI, financial transparency and audit practices were improved significantly (Sawaya et al., 2026), so did the performance of companies, especially SMEs (Khalife et al., 2024); business analytics has driven entrepreneurial success (Azoury et al., 2024) allowing companies to have both better financial numbers and clearer financial statements. Even non-financial metrics such as sustainability and ESG were improved given the recent AI revolution (Kaspard et al., 2025 ; Kaspard et al., 2026)

There is therefore a clear research gap that can be approached through a focused company case. Much of the literature uses samples of firms or estimated restatements, while a financial reporting student can also learn from a detailed examination of one company's actual transition disclosures. This project uses Lufthansa because its annual report directly discloses the transition reconciliation and the amount of right-of-use assets and lease liabilities recognized under IFRS 16. The study does not attempt to generalize the Lufthansa result to every IFRS-reporting company.

Methodology:

This project uses a descriptive case-study design based on secondary financial-reporting data. The main company is Lufthansa Group, and the main comparison is between the 2018 financial reporting position and the 2019 position after IFRS 16 became effective. The analysis uses the company's 2018 and 2019 annual reports and the IFRS Foundation's official description of IFRS 16. Academic articles are used to provide the theoretical and empirical background.

The main variables are: total assets, shareholders' equity, equity ratio, right-of-use assets, lease liabilities, and the disclosed first-time application amounts under IFRS 16. The study also calculates the percentage of 2019 total assets represented by first-time IFRS 16 right-of-use assets and the percentage of total liabilities represented by first-time IFRS 16 lease liabilities.

The transition analysis is based on the figures disclosed by Lufthansa. At 1 January 2019, Lufthansa reported €1.951 billion of right-of-use assets and €1.958 billion of newly accounted lease liabilities from IFRS 16. At 31 December 2019, the corresponding first-time application amounts were €2.364 billion and €2.386 billion. The company reported total assets of €42.659 billion and shareholders' equity of €10.256 billion at the end of 2019.

The main calculations are straightforward. The reported equity ratio is shareholders' equity divided by total assets. A simple illustrative adjusted equity ratio is calculated by removing the disclosed €2.364 billion first-time IFRS 16 right-of-use assets from 2019 total assets while leaving equity

unchanged. This is not a restated IFRS financial statement; it is only a mechanical sensitivity calculation used to show how the recognized lease asset affected the ratio.

The analysis is intentionally descriptive. It does not estimate a causal model and does not claim that changes in Lufthansa's total assets, equity, profitability, or leverage between 2018 and 2019 were caused entirely by IFRS 16. The company itself identifies other changes during the year, including aircraft investment, earnings, dividends, and changes in other balance-sheet items.

Results:

The first important result is the size of the transition adjustment. Lufthansa recognized €1.951 billion of right-of-use assets and €1.958 billion of lease liabilities on 1 January 2019 because of the first-time application of IFRS 16. This shows that the accounting change brought a substantial amount of lease-related information directly into the statement of financial position.

By 31 December 2019, Lufthansa reported €2.364 billion of right-of-use assets attributable to first-time IFRS 16 application and €2.386 billion of lease liabilities attributable to the same transition. Total right-of-use assets, including other lease-related amounts, were €2.910 billion, while total lease liabilities were €2.872 billion.

Table 1 summarizes the main figures used in the analysis.

Measure	2018 / Transition	2019	Change / IFRS 16 effect
Total assets (€m)	38,213	42,659	+4,446; +11.6%
Shareholders' equity (€m)	9,573	10,256	+683; +7.1%
Reported equity ratio	25.1%	24.0%	-1.1 percentage points
IFRS 16 right-of-use assets (€m)	—	2,364	First-time application amount
IFRS 16 lease liabilities (€m)	—	2,386	First-time application amount
Transition ROU assets (€m)	—	1,951 at 1 Jan 2019	Initial recognition
Transition lease liabilities (€m)	—	1,958 at 1 Jan 2019	Initial recognition

Source: Lufthansa Group Annual Report 2018 and Annual Report 2019. Figures are in euros millions except percentages. The IFRS 16 amounts are disclosed by Lufthansa and are not independently estimated. (Lufthansa Group, 2019, 2020).

The second result concerns the balance-sheet scale. The €2.364 billion of first-time IFRS 16 right-of-use assets represented about 5.5% of Lufthansa's €42.659 billion of total assets at the end of 2019. The €2.386 billion of first-time IFRS 16 lease liabilities represented about 7.4% of the company's total liabilities of approximately €32.403 billion at the same date. These percentages

show why the accounting change is large enough to matter when users analyze the statement of financial position.

The third result is the equity ratio. Lufthansa's reported equity ratio declined from 25.1% in 2018 to 24.0% in 2019. Lufthansa specifically stated that IFRS 16 accounting changes accounted for 1.5 percentage points of the decline. A simple mechanical calculation supports the direction of this effect: removing the €2.364 billion first-time IFRS 16 right-of-use assets from 2019 total assets while keeping equity at €10.256 billion produces an illustrative equity ratio of about 25.5%, compared with the reported 24.0%. This is close to the company's disclosed 1.5-percentage-point IFRS 16 effect, although the calculation is only an illustration and not a replacement for the company's accounting reconciliation.

The fourth result concerns the composition of the balance sheet. Lufthansa reported that non-current assets increased to €31.374 billion in 2019 from €27.559 billion in 2018, with the company stating that the IFRS 16 effect of €2.364 billion was a major contributor. At the same time, shareholders' equity increased to €10.256 billion, but the equity ratio fell because assets grew faster than equity.

These results are consistent with the broader literature. The accounting literature generally expects capitalization of operating leases to increase recognized assets and liabilities and to affect leverage and other ratios. The Lufthansa case provides actual transition numbers rather than an estimate based only on undisclosed future lease payments. This makes it a useful example for understanding the practical side of financial reporting.

Discussion and Conclusion:

The analysis shows that IFRS 16 changed Lufthansa Group's financial reporting in a visible way. The standard brought substantial lease-related assets and liabilities onto the balance sheet. At the transition date, Lufthansa recognized €1.951 billion of right-of-use assets and €1.958 billion of new lease liabilities. By the end of 2019, the first-time application amounts were €2.364 billion and €2.386 billion respectively.

For financial statement users, the main implication is that the same company can look different under a new accounting model even when its underlying leasing activity has not suddenly changed. After IFRS 16, assets and liabilities include information that was previously presented differently. This can affect ratios such as the equity ratio and leverage measures and therefore needs to be considered when comparing companies or years.

The study also shows why accounting standards matter for finance students and investors. Financial ratios are calculated from accounting numbers, so a change in recognition and measurement can change the ratios before a user makes any judgment about the company's economic performance. This is especially relevant for industries with large leasing commitments, such as airlines.

There are limitations. First, this is a single-company case study, so the findings cannot be generalized to all IFRS-reporting companies. Second, 2019 was not only the year of IFRS 16

adoption; Lufthansa also experienced changes in operating performance, investments, equity, and other balance-sheet items. Third, the illustrative adjusted equity ratio is a simple sensitivity calculation and is not a full pro-forma restatement under IAS 17. Finally, the study focuses on published annual-report information rather than confidential management data.

Future research could extend the analysis to several airlines or to a larger sample of European listed companies. A larger study could compare leverage, ROA, EBITDA margin, and interest coverage before and after IFRS 16 while controlling for industry and firm-specific factors. It could also examine whether the new reporting model changes the decisions of lenders, analysts, or investors.

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