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Air France-KLM

Equity Valuation

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Abstract

After the ashes have settled from the great pandemic of the 21st century, uncertainty continues to haunt airlines. The recovery of the industry, consensually aimed at the year 2024, has already caused a series of bankruptcies and threatened the sustainability of others.

The present study analyses and tests the condition of Air France-KLM, one of the largest European airlines and with a history that dates back to the beginning of the 20th century. It is considered to be a major player in the Transport of Passengers and Cargo, and in the Maintenance, Repair and Overhaul business segment.

For this purpose, the DCFs and Relative Valuation methods were used, supported by industry forecasts regarding future capacity, traffic, and load factors, and ending with its respective cost assessment. The macroeconomic context is firstly analysed, as well as the momentum of the industry and the idiosyncrasies of Air France-KLM. This rationale is challenged thereafter by an equity research report issued by a financial institution. In the end, the thesis suggests a price per share of €3,66, which represents a Hold in the current context.

Resumo

Depois das cinzas da grande pandemia do século XXI assentarem, a incerteza continua a assombrar as companhias aéreas. A recuperação do sector, consensualmente apontada para o ano de 2024, já provocou uma série de insolvências e ameaçou a sustentabilidade de outras companhias.

O presente estudo analisa e testa a condição da Air France-KLM, uma das maiores companhias aéreas europeias, com uma história que remonta ao início do século XX. É considerada um dos principais *players* no segmento de Transporte de Passageiros e Cargas e no segmento de Manutenção, Reparação e Revisão de equipamento aéreo.

Para tal, foram utilizados os métodos DCFs e de Avaliação Relativa, posteriormente suportados por estimativas da indústria face à capacidade e tráfego futuros, e pela respetiva avaliação das linhas de custo. O contexto macroeconómico é analisado em primeiro lugar, assim como o *momentum* da indústria e as idiossincrasias da Air France-KLM. Todo o raciocínio é desafiado posteriormente por um relatório formal emitido por uma instituição financeira. No final, a tese sugere um preço por ação de 3,66€, o que representa um *Hold* no contexto atual.

Acknowledgements

Saying thanks in standard English doesn't seem fair to someone who speaks Portuguese. I will do my best.

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May God bless you all

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1. Introduction

At a time of great international uncertainty, where economies around the globe are recovering from the devastating COVID-19 pandemic of 2020 and 2021, the entire world economic order is once again threatened by a war that broke out in Eastern Europe in early 2022, freezing the ongoing upturn and throwing away any hope of resuming the 2019 momentum.

The airline industry, cyclical by nature, suffered structural damage that has led to multiple bankruptcies and irreversible costs. It is going through times that will be certainly fossilized as one of the darkest periods in the history of civil aviation.

This thesis aims precisely to explore the current situation of one of its main players, Air France-KLM, one of the largest in Europe. It assesses what impact these consecutive crises had on its financial and operational performance, focusing on recent historical data. Thereafter, it tries to understand what position and perception the market agents have on the whole paradigm, challenging the current share price when developing forecasts and estimates for the future of the airline.

The structure begins with a literature review block, which focuses on the bibliographic framework and sources used in later chapters. Chapters 3, 4 and 5 explore the airline's organization and its different operational branches, as well as the current industry context and macroeconomic variables. Chapters 6 and 7 introduce the valuation methods and arguments that led to the development of specific forecasts. In the final chapters, the thesis definitive assessment is discussed when compared with a formal equity report from an investment bank, drawing comparisons and possible explanations about the different assumptions. The thesis ends with a conclusion on all the above aspects.

2. Literature Review

2.1 Theoretical Framework

Of all the Market Efficiency hypotheses identified by Fama (1970), the semi-weak form seems to be the one that shows the greatest adherence to reality. This hypothesis assumes that the market prices at which securities are traded already contain all publicly available information, and therefore, any effort that involves analysing public information about a given company would be in vain. Equity Research collides with this assumption, defying its nuances, and seeking to obtain excess returns by raising value differences between intrinsic values estimates and market prices.

Damodaran (2011) repackages and simplifies the various existing methods into two major groups of valuation approaches: intrinsic and relative. The intrinsic value of a company or asset is determined by the cash flows it is expected to generate throughout its life and by the volatility associated with it. On the other hand, relative valuation looks at the market price of similar companies and tries to establish a rationale of comparison.

2.2 Discounted Cash Flow Valuation

This method aims to value a company by estimating its future cash flows and discounting them to the present through at a rate that incorporates the investor's opportunity cost of capital. Unlike other valuation methods, "*the cash flow discounting method is generally used because it is the only conceptually correct valuation method*" (Fernandez, 2001).

Formula 1: **Cash Flow Discounting-Based Method:**

$$\sum_{n=1}^{t} \frac{CF_n}{(1+i)^n} + \frac{TV_t}{(1+i)^t}$$

$$where\ TV_t = \frac{CF_n\ (1+g)}{i-g}$$

The future cash flows (CFs), the discount rate used (i), the Terminal Value (TV) and its long-term growth (g) will be reviewed in the next subsections.

2.2.1 Free Cash Flows

When valuing a company, there are normally two ways of calculating expected cashflows, and ultimately the value of a company. This distinction divides the study field into Equity Valuation and Firm Valuation (Damodaran, 2012). Firstly, there is the approach that insides directly into equity value, giving rise to the calculation of Free Cash Flows to Equity (FCFE), and a second approach, which extends the spectrum of analysis to the entire business, by calculating Free Cash Flows to Firm (FCFF), including debt in the equation as well.

Formula 2: **FCFE vs FCFF**

$$\boldsymbol{FCFE} = Net\ Income - (Capital\ Expenditures - D\&A) - \Delta NWC + Net\ Borrowings$$
$$\boldsymbol{FCFF} = EBIT(1-T) - (Capital\ Expenditure - D\&A) - \Delta NWC$$

The FCFEs measure the cash left over after all taxes have been paid, short-term reinvestment needs met, measured through changes in NWC (inflows from increases in payables and outflows from increases in inventory and receivables), long-term reinvestment needs, recognized in Net CAPEX, and net of debt commitments (inflows of new debt issued and outflows of principal repayments). If, in the end, this value is positive, it means that this same value can be transformed into dividends paid to shareholders (Damodaran, 2011).
The FCFFs have a parallel calculating reasoning but they start with operating earnings and subtract taxes and reinvestment needs. It is calculated before deductions for interest and debt events, precisely to reflect what would be left to all investors (Damodaran, 2011).

2.2.2 Discount Rate

Next, each cash flow must be discounted to the present at a rate that represents the return required by investors. In the case of FCFE it will be the cost of equity (Ke) and for FCFF it will be the WACC.

Formula 3: **Cost of Equity and WACC**

$$\boldsymbol{Ke} = Rf + \beta(Market\ Equity\ Premium)$$
$$\boldsymbol{WACC} = \frac{D}{E+D} \times\ Kd(1-T) + \frac{E}{E+D} \times Ke$$

Ke is taken from the CAPM, that was firstly introduced by Sharpe (1964) and Lintner (1965), which is based on the classical Markowitz's (1959) mean-variance model and the existence of

a theoretical market portfolio. CAPM advocates that the expected return on a stock is the sum of a risk-free rate and a premium for bearing the stock's market risk. Thus, there are three inputs:

(1) Risk-free rate *Rf* - is assumed to be an asset that does not present default risk. A commonly used proxy are long-term government bonds.

(2) Market Risk Premium *E(Rm-Rf)* - typically calculated relative to an equity market index and therefore is generally used interchangeably with the term Equity Risk Premium. It represents the premium demanded by investors who invest in the stock market over the risk-free rate, linked to the risk they are willing to bear and the price associated with this effort. The most well-established ways of calculating it are the historical equity risk premium approach and the implied risk premium approach. The first approach analyses historical return data from stock market indexes, which best represent the theoretical market portfolio, and compiles an average annual return. The second is forward looking and obtains the premium estimates through current stock prices and the corresponding expected future cash flows (Damodaran, 2011).

(3) Beta β - represents the sensitivity of a given stock return to fluctuations in the market portfolio returns and is considered to be a proxy for systematic risk. This task is performed through a regression of the stock's historical returns against the market's returns (Damodaran, 2011).

WACC adds further variables:

(4) Cost of Debt *Kd* - represents the interest charged by debtholders for being suppliers of capital. There are normally two approaches used: a credit-rating approach and an YTM approach. The latter calculates an overall yield-to-maturity, weighted in the different debt tranches with different maturities and coupon rates, that were issued by the company. On the other hand, the credit rating approach is used when the debt's market price is not accessible by traditional means and some correspondence is established between the credit rating of the company's debt and the yield of comparable bonds with the same rating and maturity.

(5) Tax rate T - in order to consider the tax-shield advantages of debt, we should deduct the marginal tax rate in order to calculate an after-tax cost of debt.

(6) Market Value of Equity E - calculated through multiplying the company's number of shares outstanding and the share price value.

(7) Market Value of Debt D – Not as easy to be obtained as the equity market capitalization, but one could calculate it by treating the book value of debt as a one-coupon bond, establishing a coupon that corresponds to the interest expenses paid on the entire debt and a maturity set equal to the face-value weighted average maturity of the entire debt ((Damodaran, 2012).

The weights used in the WACC formula can be adjusted to the company's target capital structure, if it is allocating resources and restructuring its structure accordingly, and this data must be considered in the analysis (Damodaran, 2011).

2.2.3 Growth Rates

There are several options to estimate the cash flow growth rates. Kelleher (2010) defines two strategies: the first, less granular, which aims to directly calculate a series of growth rates for the different free cash flows; and a second one that goes into detail and forecasts the different inputs of the DCF model, such as revenues, depreciation, and capital spending. The industry standard is to do this exercise for the next 5 years. Damodaran (2012) also covers the same methods but divides them into three: looking at the historical performance of earnings; use forecasts from specialized analysts who have been following the company/industry for a long time; and a third, which aims to estimate the growth rate of the firm's fundamentals. The same author also warns that the historical analysis on which the forecasts can be supported must be taken with some degree of scepticism, as well as some projections by industry specialists.

2.2.4 Terminal Value

After a certain year, the forecast becomes less fruitful. At this point, it makes sense to assign a value to a final cashflow, which focuses on the rest of the company's useful life, and for this we must resort to a continuing-value formula (Koller, Goedhart and Wessels, 2020). For Damodaran (2011), there are two methods of doing this: resorting to a liquidation value for all its assets or estimating a going concern value, assuming that the company will continue to

operate indefinitely. The first technique requires taking an estimate of the market prices of all assets and simulating a final total sale. The second method, by treating the company as a going concern, it will calculate a long-term rate that encompasses growth in perpetuity (*g* in *Formula 1*). This task requires that the terminal growth rate must have some coherent corelation with the national GDP growth, as it cannot be greater than the overall long-term growth of the economy where it operates (Kelleher, 2010).

2.3 Relative Valuation

The rationale in Relative Valuation is built on the comparison of similar firms and their market prices. This type of analysis is highly dependent on the family of multiples chosen and on the sample of comparable companies (Damodoran, 2012). Koller, Goedhart and Wessels (2005) remind that multiples should be used as a complementary method to the DCF valuation, because "*properly executed, such an analysis can help a company to stress-test its cash flow forecasts*", and thus consolidate its results. Damodoran (2012) groups multiples in 4 families: Earnings Multiples, Book-value Multiples, Revenues Multiples, and Industry-Specific Multiples. All multiples have a common structure that relies in a ratio of a value measure against a value driver.

2.3.1 Peer Group

The choice of comparables defines the accuracy of the entire analysis. Alford (1992), when studying the effectiveness of the P/E multiple, concludes that choosing a peer group based on the industry in which it operates is the approach that causes the least amount of estimation errors, compared to a filter based on firm size or earnings growth.

Business classification systems are often used as a starting point for delimiting a sample of companies. Lie and Lie (2002) based their research using this method, particularly the SIC system.

2.3.2 Multiples

Multiples can be calculated from a historical viewpoint (Trailing Multiples) or from a future perspective (Forward Multiples). The most correct method to use according to the Valuation theory, which argues that the present value of a company will be the sum of its future payoffs discounted to the present, will be the multiples' category that cover the future estimates of the various firms (Schreiner, 2007). Thus, and if possible, forward multiples should be used.

Amidst the various possibilities to choose from, two multiples were selected due to its relevance in the current context of AF-KLM:

(1) EV/EBITDA - According to Kaplan and Ruback (1995), this multiple gives similar results in terms of accuracy if compared to the DCF valuation. It is the most popular multiple within the enterprise value multiples' family. It has the advantage of including non-cash expenses (unlike EV/EBIT) and is suitable for mature companies, with the disadvantage of not including CAPEX considerations.

(2) EV/Revenues - Usually value-to-revenues multiples do not yield consistent outcomes, except in the case of industries with negative or unstable results (Koller, Goedhart and Wessels, 2020). It has the advantage of avoiding some operational turbulence, by focusing on the top of the income statement and avoiding negative EBITs, but it is a somewhat rudimentary ratio for refined valuations. It is known as a last resort multiple.

2.4 Other Valuation Models

Another alternative valuation model is the APV. It estimates the value of an unlevered firm, calculates the present value of interest tax savings if there were debt financing involved, and evaluates the probability of this last factor causing bankruptcy, by including the expected costs in its calculation.

Formula 4: **Adjusted Present Value**

$$\boldsymbol{Current\ Firm\ Value} = Unlevered\ Firm + PV\ of\ Tax\ Benefits + Expected\ Bankruptcy\ Costs$$

Despite being a model that has the advantage of dividing the effects of debt into different components and allowing them to be discounted individually at different rates, it has the trade-off of difficulty in estimating the probabilities of default and bankruptcy costs (Damodoran, 2012).

There is yet another family of important models: the Dividend Discount Models. These models assume that the current fair price of a share should reflect all dividends that will be paid in the future by the company (Damodoran, 2011). It can be adjusted for different periods with different growth phases.

Formula 5: **Dividend Discount Model**

$$\boldsymbol{Value\ of\ Equity} = \frac{Expected\ Dividends_{t+1}}{Ke - Expected\ Growth\ Rate}$$

There are obvious setbacks regarding the use of this model, from the difficult application to companies that do not pay dividends, as the case of AF-KLM.

2.5 Company Valuation Kick-off

The preferred approach of the DCF method will be the FCFF, as AF-KLM is experiencing volatility in terms of capital structure. The Relative Valuation will proceed after the latter, but first, and according to Palepu, Healy and Peek (2019), several steps must be carefully taken in order to have the necessary framework for the act of valuing a company. The first step is the Business Strategy Analysis, which aims to generate expectations about the industry, macroeconomic variables, and the competitive environment. This phase will be found in Chapters 3, 4 and 5 of the present study. The second, third and last step correspond to Accounting Analysis, Financial Analysis and Prospective Analysis. Here, the company's historical data is studied, its performance evaluated through ratios and comparisons between accounting items, and its future cash-flows estimated. This phase will be found throughout Chapters 6 and 7, and it will serve as the DCF foundation.

3. Company Overview

3.1 Brief History

The Dutch KLM was established in 1919 and the French Air France in 1933, both pioneers in the development of civil aviation. Among other historical facts, the famous Concorde project was operated by Air France in the late 20th and early 21st centuries and KLM is the oldest airline still in operation. The history of the two airlines is similar regarding the usage of successive tactical takeovers to gain market dimension, which culminated into the merger of the two, giving rise to the Air France-KLM Group in May 2004, a global giant in the international air traffic scene. The group's network comprises two intercontinental hubs, Paris-Charles de Gaulle and Amsterdam-Schiphol, two pillars of European air transport.

3.2 Business Segments

AF-KLM Revenues come from three main segments: Network (Passenger + Cargo), Maintenance and Transavia.

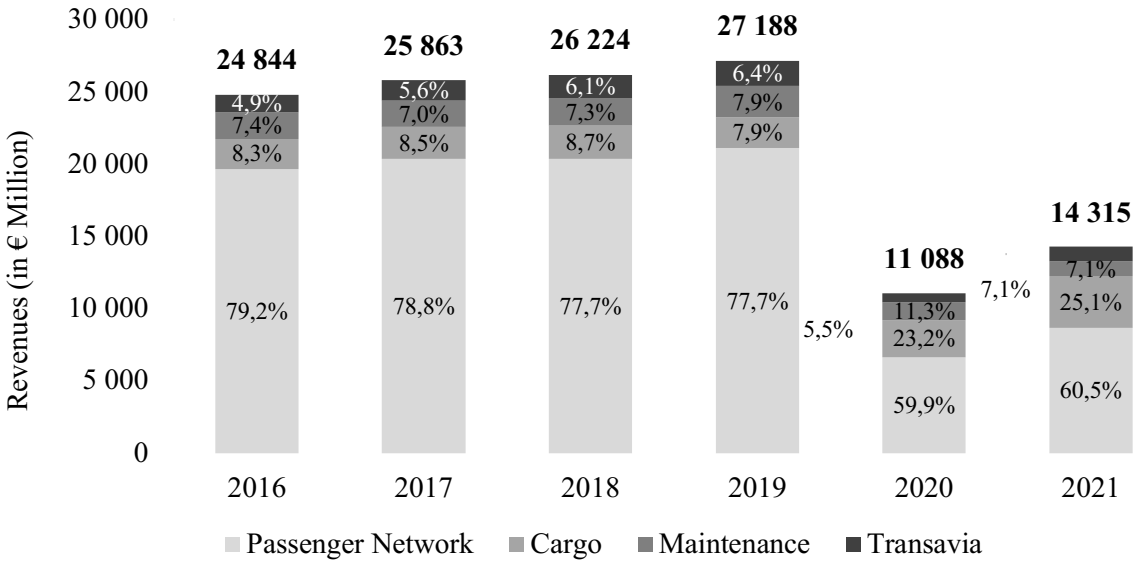
(1) Network: AF-KLM core operations are further divided in Passenger Network and Cargo Services, both including revenues from flights under code-sharing programs operated by other partner airlines. The Passenger Network is made of passenger transportation services. The Cargo section includes revenues regarding freight transport on flights under AF-KLM codes and sales of cargo capacity to other transportation companies.

(2) Maintenance: aeronautical Maintenance, Repair and Overhaul (MRO) services provided to other airlines, offering comprehensive technical ground support.

(3) Transavia: The Group’s low-cost carrier, which started flying in 2014.

There is a fourth section, called “Other Revenues”, ranging from 0,1% to 0,3%, that comprises revenues not included in the previous segments. Those values are excluded from *Figure 1*.

Figure 1: **AF-KLM Revenues by Business Segment**, 2016-2021

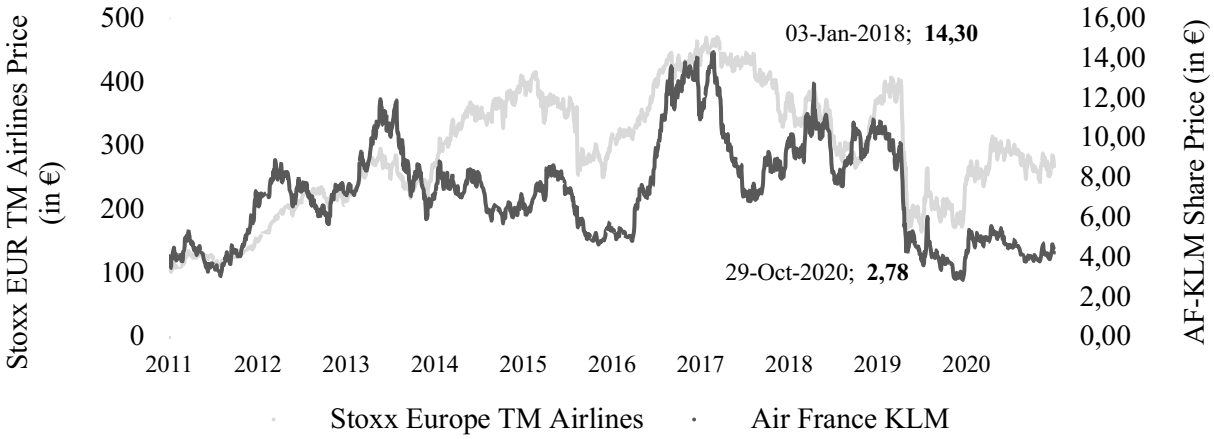


Source: AF-KLM Universal Registration Documents (2016-2021)

3.3 Share Performance and Shareholder Structure

AF-KLM is listed in the Euronext Paris/Amsterdam and is present in indices such as the STOXX Europe Total Market Airlines or the Dow Jones Sustainability Index. Dividends are not paid since 2007/2008.

Figure 2: **European Airlines vs AF-KLM Share Performance,** 2011-2021



Source: Thomson Reuters Eikon (2021)

As of December 31st, 2021, the AF-KLM's shareholder structure was the following: French State (28.6%), Dutch State (9,3%), Delta Air Lines, Inc. (5.8%), China Eastern Airlines (9.6%), AF-KLM Employees (2.5%) and Others (44.2%).

3.4 SWOT Analysis

In order to understand the present situation and what possible future constraints may come into play, it will be important to carry out a brief SWOT analysis, which succinctly frames some vectors of forces to which the company is exposed. The COVID factor, present across all points of the analysis, will be fully discussed in *Section 4.1 Industry Overview*.

3.4.1 Strengths

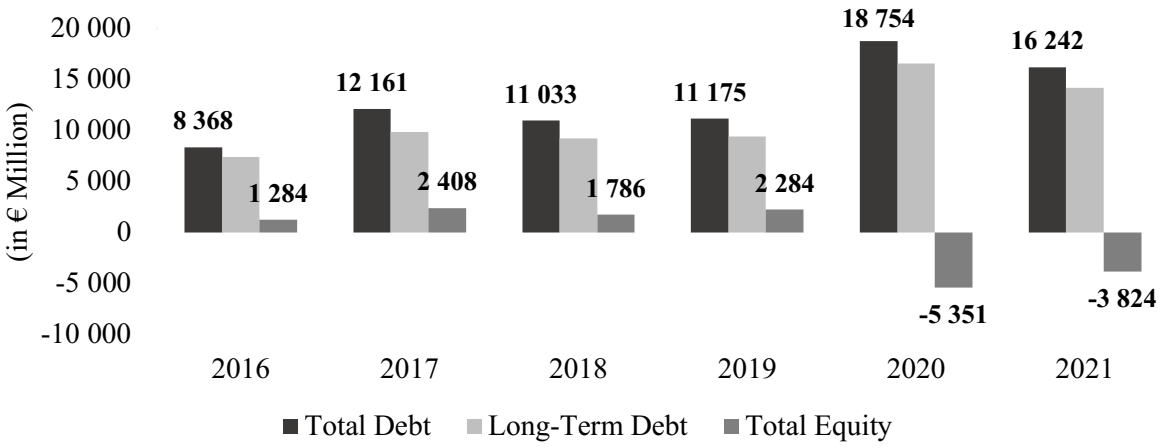
The secular reputation that both airlines have brought into the partnership gives the company a status of global player in the passenger transportation and cargo services. In 2019, its all-time record year on many fronts, AF-KLM carried more than 104 million passengers across 250 destinations and reached 391 cargo destinations across 158 countries. Its MRO branch maintained around 3000 aircraft across 200 airline customers. By the end of 2021, it was managing a large fleet network of 536 aircraft. These recurring figures over several decades cement its strong market position, building brand credibility among investors worldwide.

Participating in an air alliance amplifies synergies between different peers via codeshare agreements. The alliance allows for more efficient cost management, sharing of operating staff and facilities, greater bargaining power in large investments and purchases, and overall organizational fluidity. AF-KLM is part of the Skyteam Alliance, a competitor of Star Alliance and Oneworld.

3.4.2 Weaknesses

AF-KLM's balance sheet is fundamentally financed through debt. High levels of debt can be a constraint on future search for financing. The debt level, already chronically above the industry median, has deteriorated decidedly in 2020, as can be seen in *Figure 3* and *Table 1*. This condition was mainly caused by two large government loans in 2020. The worsening disproportion between equity and debt in 2020 can lead to credit-ratings drops of five or more notches throughout the industry (IATA's World Financial Symposium, 2021).

Figure 3: **AF-KLM Total Debt, Long-Term Debt and Total Equity,** 2016-2021



Source: AF-KLM Universal Registration Document 2016-2021

Table 1: **AF-KLM Leverage Ratios vs Industry,** 2016-2021

	2016	2017	2018	2019	2020	2021	Industry Mean in 2021
Debt-to-Equity	6,52	5,05	6,18	4,89	-3,50	-4,25	**1,23**
LT Debt-to-Capital	0,77	0,68	0,72	0,70	1,23	1,14	**0,36**

Source: Own Calculations and Thomson Reuters Eikon (2021)

3.4.3 Opportunities

The Travel and Tourism sector contributed 10.4% to GDP in 2019 with US$9,170bn and 5.5% in 2020 with US$4,671bn. In the aftermath of the pandemic, this figure may reach US$13,085bn by 2029, according to the WTTC, as economic activity regains ground and approaches its pre-pandemic values. AF-KLM Passenger Network segment is positively correlated with the sector and can greatly benefit from its recovery prospects.

Regarding the Air Cargo segment, for the next 20 years (2021-2041), international cargo RTMs are expected to increase 3,8 percent per year, according to the FAA. Again, this estimate is primarily based on world and regional GDP forecasts, and it heavily relies on the resurgence of the world aggregate demand. AF-KLM Cargo Services can benefit from this recovery phase.

3.4.4 Threats

AF-KLM operations have traditionally been highly structured by a complex body of rules and regulations. It must comply with a series of standards set by the EASA and globally with the IATA. Additionally, it has to follow several National Civil Aviation Authority rules and a

sizable amount of other specific directives that govern an industry that requires a high level of scrutiny. The rigidity of the regulation and the threat of fines limits AF-KLM operational flexibility to a certain extent.

AF-KLM is highly exposed to variations in fuel prices, which have a very large impact on operational profitability. The threat of fuel price unpredictability is discussed in more detail in *Section 5.1 Fuel Price Risk*.

4. Industry Overview

4.1 Pre-COVID Context and Long-term Trends

The airline industry has played a central role in the development of the world economy, providing transportation services that connect many parts of the world. It is an industry traditionally characterized by high fixed costs, high barriers to entry, high operating costs, tight regulation, and intense competition.

Table 2: **Worldwide Airlines' Operating and Net Results**, 2013-2020

(in €m)	2013	2014	2015	2016	2017	2018	2019	2020
Operating Income	25 300	35 450	61 962	60 144	56 600	45 947	43 159	-105 000
Net Results	10 700	13 802	35 971	34 191	37 600	27 250	26 366	-126 400

Source: IATA WATTS+ (2021)

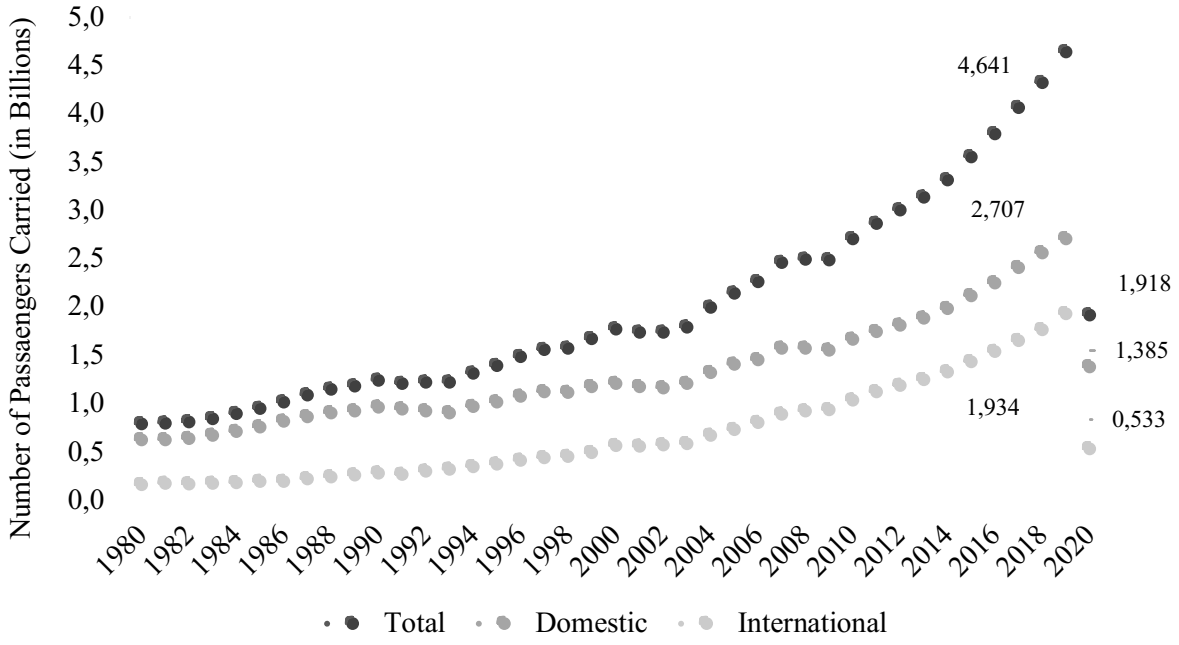
IATA (2018) pinpoints several future drivers of change. It identifies greater urbanization, the growth of megacities, the growth of the Asia-Pacific middle classes and a trend towards an aging global population, which will shape air transport consumption patterns. In terms of technology, topics such as robotics and automation, research about reliable energetic alternatives to fossil fuels and cybersecurity, should also be considered. There will be more stringent regulations on polluting emissions, noise pollution and carbon quotas, as well as increasing economic disparities between countries, increased oil prices, and geopolitical instability associated with the rise of populist movements.

With the increasing liberalization of the commercial aviation market, LCCs have gained market share by focusing on price differentiation. This segment challenged the *status quo* of passenger air transport: Ryanair, EasyJet, and other European LCCs captured 41% of the seat capacity on scheduled services in Europe in 2015. Big European airlines were forced to create a low-cost segment, under penalty of being swallowed up by LCCs. However, it relies on a business model extremely sensitive to the economic cycle, and a substantial increase in costs could potentially harm its sustainability.

4.2 Post-COVID Context

The airline industry was highly affected by the unprecedented SARS-CoV-2 pandemic hit in February/March 2020. The industry that successfully overcome trouble times, namely related with the 70's oil crisis, 9/11 terrorist attacks and 08' Financial Crisis, was surprised with an unparalleled shock that triggered a wave of bankruptcies and accelerating debt levels sponsored by last resort national government's capital injections (KPMG, 2021).

Figure 4: **World Passenger Traffic Evolution**, 1980-2020



Source: International Civil Aviation Organization (2020)

4.2.1 2020 Crisis

Due to its cyclical nature, the industry reacted rapidly to the shock and quickly absorbed the impact caused by border closures and travel restrictions, that had a domino effect throughout all entire economies. International air travel was hit to a much higher degree than domestic air travel, as passengers gave priority to within borders and urgent travelling.

The Air Cargo sector didn't break as violently since it remained indispensable to sustain global supply chains and to transport medical equipment and pharmaceuticals. Air Cargo faced a problem of capacity shortage due to absence of belly cargo. In a normal year, nearly 50% of cargo volumes are carried in the holds of passenger aircraft and the other half in dedicated air freighters (IATA, 2020).

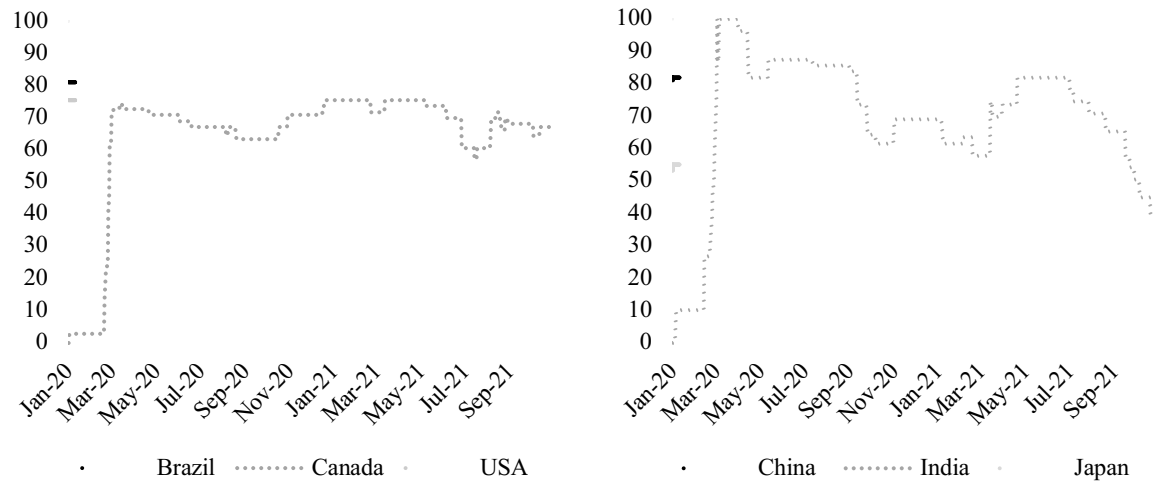
The existence of second and third COVID waves across nations ruined some recovery progress. Initiatives that were being carried out in order to adapt air travel (e.g., conditional travelling by

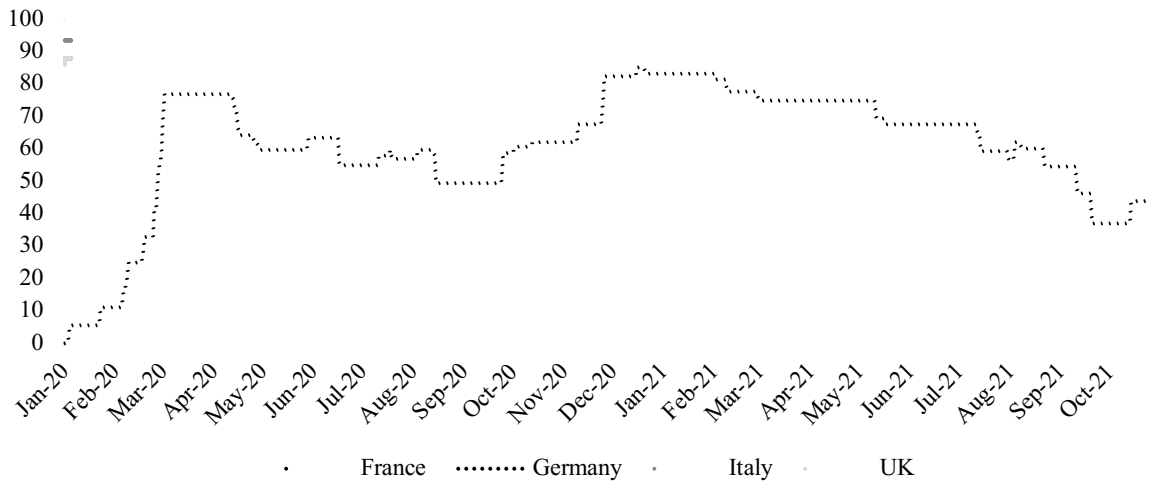
presenting a negative COVID test), were constantly challenged by new variants. All conditions were settled to the ultimate *annus horribilis*, till the first vaccination approvals bettered the worst-case scenarios.

4.2.2 2021 Hangover

The industry recovery following the shock didn't follow the GDP global rebound at the first half of 2021, mainly due to continued travel restrictions and generalized fear affecting demand. Airport pair routes in April 2021 were down 50% compared to April 2019 and one third of the global fleet was still grounded (IATA, 2021). The three main blocks, North America, Europe, and Asia-Pacific, that account for 85% of total industry market share (measured in 2020 RPKs), were performing very differently. These three regional blocks were still demonstrating high levels of travel restrictions by the end of 2021 (*Figure 5*). Setbacks regarding the effectiveness and control of vaccination and the unpredictability over new outbreaks of cases were still forcing governments to impose lockdown measures and movement restrictions.

Figure 5: **Top 10 Largest Economies' COVID-19 Stringency Index**, 2020-2021





Source: Oxford COVID-19 Government Response Tracker

With the transition from pandemic to endemic, it was expected that restrictions on movement between countries would ease, moving away from the health status model, such as proof of vaccination and/or recovery, *"towards targeted protection of vulnerable groups while enabling social and economic activity to resume."* (IATA COVID-19 Info Hub, 2021)

4.3 Recovery Year and Short-term Trends

All these constraints postpone the industry's rebound to 2024, as this seems to be the benchmark year for all analysts: "*2022 will be another year of recovery for airlines; it will be well into 2023 and 2024, before the market returns to pre-pandemic levels of travel.*" (KPMG, 2022).

Fitch (2021) mentions that increasing rates of vaccination, a greater number of treatments, and a tendency to lower restrictions among countries, will accelerate the recovery in 2022 and 2023, and it expects the sector to reach its 2019 pre-pandemic figures in 2024. The report expects that the business travel class, which feeds the activity of many airlines, will recover with companies heading back to offices, growing Zoom fatigue and in-person international meetings. However, the report maintains some apprehension about new variants forcing a slowdown, as well as rising operating costs.

McKinsey (2021) projects that traffic will not return to pre-pandemic levels until 2024. This report, unlike Fitch's, assumes that international leisure trips will be the responsible for the rebound. It believes that ticket prices will increase due to the substantial debt levels of airlines, that aircraft markets will be oversupplied, and the air freight market undersupplied in the next years.

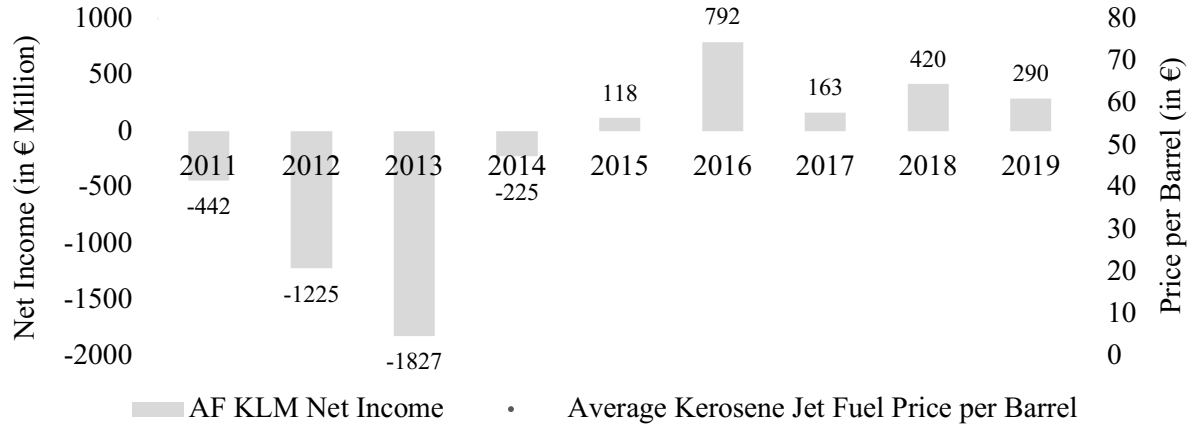
5. Macroeconomic Environment and Risk Factors

After the analysis and impact caused by the COVID pandemic, other macro factors need to be analysed in order to consider all the risks that affect AF-KLM's operations. Those considered idiosyncratic are discussed in the next subchapters.

5.1 Fuel Price Risk

The airline industry is sensitive to changes in oil and jet fuel prices, as it normally represents the largest single operating cost item. Theoretically, a sharp decline in oil prices would have a positive material impact on the profitability of airlines, and vice-versa. This negative correlation is observable in practice, as illustrated in *Figure 6*.

Figure 6: **AF-KLM Net Income and Jet Fuel Price Trend Comparison**, 2011-2019



Source: Thomson Reuters Datastream (2021)

From 2011 to 2019, AF-KLM presented a clear negative relationship (ρ=-0.83, correlation t-test=-4,23) between its net income and aircraft fuel expenses. The volatility of oil prices forces airlines to have strict hedging polices, through futures and option-based instruments, in order to systematically manage its fuel price risk exposure. There are periods in which a constant rise in prices, even after hedging, remains too great a burden to bear. The Russian invasion of Ukraine is currently having a substantial impact on the price of fossil fuels, due to the decrease in supply and increase in demand, which is expected to harm airlines profitability in the near future.

5.2 Interest Rate Risk

The majority of the AF-KLM debt was issued on a floating rate basis and, therefore, is sensible to swings that may occur in interest rates. With the current threat of rate hikes in 2022 by the ECB to neutralize the rise in inflation, financing capacity becomes a constant concern. To combat interest rate volatility, AF-KLM enters into swap agreements, reducing the risk of unexpected interest expenses.

5.3 Geopolitical Instability and Terrorism

The conflict that broke out in Eastern Europe in February 2022 is an illustrative example of this risk. The Russian invasion of Ukraine triggered AF-KLM to withdraw all commercial flights to Ukraine and caused detours to avoid flying over Ukrainian skies. This specific situation, characterized by less revenue and more costs associated with route replanning, was further worsened with the cut of connections to Russia on the 27th of February. Geopolitical stability allows AF-KLM to continue to provide services to as many regions as possible, enhancing the creation of new routes and partnerships.

Terrorism has also historically affected and shaped the industry. AF-KLM closely dealt with Paris' 2015 terrorist attacks. It is estimated that, in the 4th quarter of 2015, the company lost around €150m in revenue due to lack of demand. Since 9/11, there is a greater control for safety standards to be met.

5.4 Climate Change and Carbon Credit Risk

Extreme weather, severe storms, volcanic eruptions, floods, and earthquakes pose threats to the smooth running of AF-KLM operations. Its CSR position on this issue obliges the airline to play an active role, together with its peers, in an effort to contribute to the planet's sustainability. AF-KLM incorporates several initiatives that aim to combat climate change, such as the "Energy Transition for Green Growth" introduced by the French government, which implies a constant investment in the renewal of its fleet to more efficient aircraft. This allows AF-KLM to manage its carbon dioxide emissions budget integrated into the EU emission quota system more effectively.

5.5 Currency and Translation Risks

Most of the revenue is generated in euros, but there are many cases of exposure to other currencies due to the international nature of its operations. The main exposure is to the US dollar. The company resorts to hedging when exposure becomes considerable.

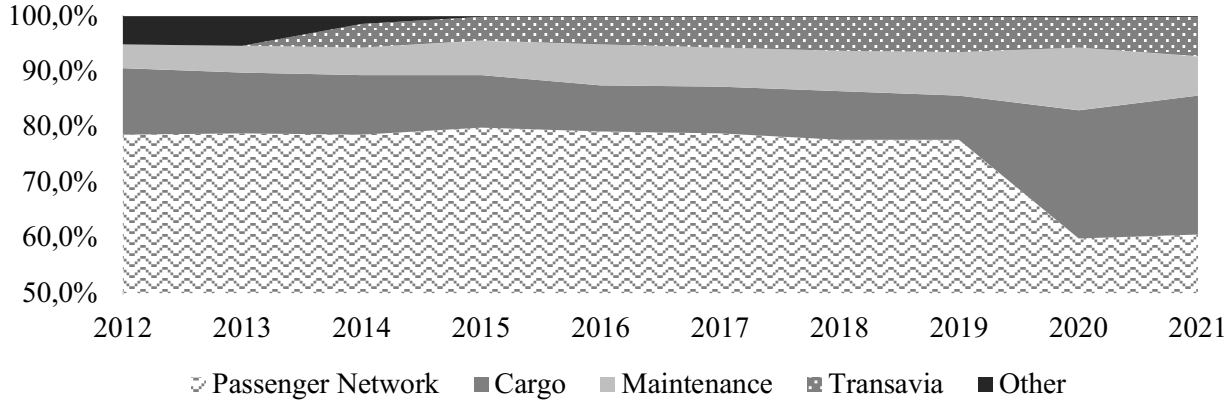
6. Discounted Cash Flow Valuation

The most important items for the DCF analysis will be analysed throughout *Chapter 6*, resorting to the historical performance of each element, as well as examining possible future trends. The forecast period analysed covers the interval between 2022 and 2027. As seen in the presentation of results for the last quarter of 2021, AF-KLM has 2024 as its recovery year, namely in terms of capacity. This will be the reference year for many of the forecasts, as it is also the reference year for the industry (*Section 4.3*).

6.1 Revenues

The airline's core business has long resided in the Passenger Network segment, normally contributing around 80% to total revenues, as shown in *Figure 7*. The Cargo section has gained an atypical relevance in the last two years for the reasons already mentioned in *Section 4.2.1* related to the pandemic. If we look at the pre-COVID values in *Appendix 6*, we can see that there was a downward contribution trend in the Cargo section since 2012, with 12% of Revenues, to around 8% in 2019. The contribution percentages for 2020 and 2021 of 23,2% and 25,1% respectively, are expected to fall back to their long-term trend of around 10%. On the contrary, both MRO and Transavia showed an increasing contribution in the last decade.

Figure 7: **AF-KLM Business Segment Contribution to Total Revenues**, 2012-2021

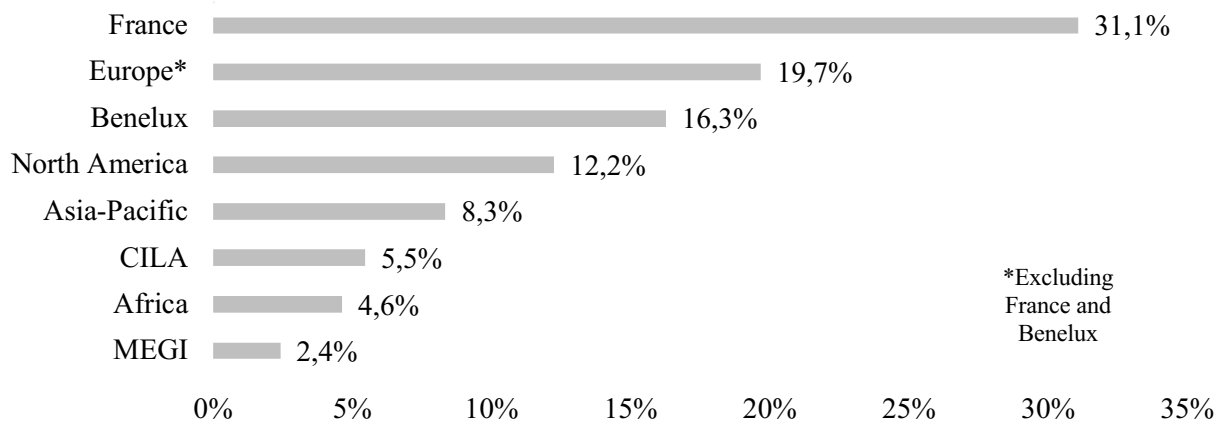


Source: AF-KLM Universal Registration Documents (2012-2021)

Two thirds of the AF-KLM group's revenues are generated in Europe, as evidenced by *Figure 8*, supported by the existence of the Paris and Amsterdam Hubs. For future reference purposes,

the Short-haul and Medium-haul categories represent the European market, and the Long-haul category represents all other regions.

Figure 8: **AF-KLM Geographical Average Contribution to Total Revenues**, 2016-2021



Source: AF-KLM Universal Registration Documents (2016-2021)

6.1.1 Passenger Revenues

The main driver of AF-KLM's revenues is Passenger Revenues (*Appendix 6*), which comprises all revenues associated with passenger transport (*Appendix 1*). The two most important variables to be analysed, and on which the entire forecast is based, are the RPK and ASK. The RPK is obtained by multiplying the number of revenue-paying passengers aboard by the number of kilometers flown. The ASK, analogously, is obtained by multiplying the number of available seats by the number of kilometers flown. Thus, the RPK and ASK work as two identical variables to the demand and supply for AF-KLM air travel. It can easily be concluded that the load factor is obtained by RPK/ASK, representing the percentage of seats sold/occupied per flight.

$$\boldsymbol{RPK = ASK \times Load\ Factor}$$

The model considers two distinct steps: (1) calculating the expected RPK and (2) converting the RPK to Passenger Revenues:

(1) The revenue forecast model relies on IATA forecasts for ASK and Load Factor by destination region (*Appendix 8*), which immediately calculates the RPK forecasts. For each region there is a specific recovery year that, according to IATA, a certain location

will again reach its pre-crisis values of 2019. For the year 2022, values present in IATA (2021) were used and for the period 2023-2027, IATA's long-term CAGRs were used, which comprises the expected compounding annual growth rates for the period 2019-2040, that already include the effects of COVID.

(2) Once the RPK is obtained, it is multiplied by the "Unit Revenue per RPK" for the year in question, resulting in the end-year passenger revenue. The "Unit Revenue per RPK" has remained quite stable over the last decade (*Appendix 1*), diverging slightly in the pandemic years. It was assumed that this variable would correct to 2019 values in 2024 (CAGR= -2,13%), and that it would remain constant afterwards.

Within passenger revenues, there is also a residual portion corresponding to Other Passenger Revenues that must also be considered. As can be seen in *Appendix 1*, this item presented very stable levels of % of Total Revenues over the last decade. This way, it was assumed that this portion will assume its last 10-year average (2012-2021) of 4,0%. Based on *Appendix 7* and *9*, we arrive at the following forecast table:

Table 3: **AF-KLM's Passenger Network Revenues Forecast**, 2022-2027

Passenger Network RPKs (in millions)	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
North America	30 314	43 438	62 245	63 552	64 887	66 249
Latin America	18 271	25 199	34 753	35 761	36 798	37 865
Asia-Pacific	12 415	26 836	58 008	60 618	63 346	66 197
Africa-Middle East	25 340	26 684	28 099	29 588	31 157	32 214
Caribbean-Indian Ocean	25 901	26 689	27 500	28 298	29 118	29 963
Total Long-Haul	**112 242**	**148 846**	**210 605**	**217 817**	**225 306**	**232 488**
Short and Medium-Haul	**37 747**	**43 372**	**49 835**	**50 882**	**51 950**	**53 041**
Total	**149 989**	**192 218**	**260 440**	**268 699**	**277 256**	**285 529**
Unit Revenue per RPK (in € cents)	8,09	7,91	7,75	7,75	7,75	7,75
Scheduled Passenger Revenues (in €m)	**12 129**	**15 212**	**20 171**	**20 811**	**21 473**	**22 114**
Other Passenger Revenues	**508**	**638**	**845**	**872**	**900**	**927**
% of Total Revenues	*4,0%*	*4,0%*	*4,0%*	*4,0%*	*4,0%*	*4,0%*
Total Passenger Revenues (in €m)	**12 637**	**15 849**	**21 016**	**21 683**	**22 373**	**23 041**

YoY Change (%)	*45,8%*	*25,4%*	*32,6%*	*3,2%*	*3,2%*	*3,0%*

Source: Own calculations

6.1.2 Cargo Revenues

Cargo Revenues are also analysed from a demand-supply perspective, where the most important variables are the RTK and ATK. The RTK variable was taken directly from Boeing (2021), which gives a 4,6% growth rate for cargo traffic, for the period 2021-2040. Similarly, as in the previous case, the "Unit Revenue per RTK" was used in order to convert RTK to Cargo Revenues. This variable reaches 2019 numbers again in 2024 (CAGR= -17,03%) and remains constant afterwards. If completed with the historical information from *Appendix 2*, the *Table 4* presents what was suspected in *Section 6.1*: Cargo Revenues will fall in the short term and will eventually recover the expected long-term normal pace, causing the contribution of the Cargo segment to total revenues to decrease and approach its historical average again.

Table 4: **AF-KLM's Cargo Revenues Forecast**, 2022-2027

Cargo	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Traffic (in millions of RTK)	8 429	8 816	9 222	9 646	10 090	10 554
Unit Revenue per RTK (in € cents)	36,94	30,65	25,43	25,43	25,43	25,43
Total Cargo Revenues (in €m)	**3 114**	**2 702**	**2 345**	**2 453**	**2 566**	**2 684**
YoY Change (%)	*-13,2%*	*-13,2%*	*-13,2%*	*4,6%*	*4,6%*	*4,6%*

Source: Own calculations

6.1.3 Transavia Revenues

The AF-KLM's low-cost carrier used the same rationale as in *6.1.1 Passenger Revenues*. Bearing in mind that Transavia is mostly exposed to the European air travel market, it was assumed that ASK growth rates and recovery year corresponded to that expected for the overall European market. Unlike the last two sub-sections, here the "Unit Revenue per RPK" had been increasing since 2014 (*Appendix 3*). The value returns to 2019 levels in 2024 (CAGR= -5,10%), and recovers the pre-pandemic pace of growth afterwards of 1,6% per year. Considering *Appendix 10*, which contemplates forecasts for the ASK and Load Factor, the following table is formed:

Table 5: **AF-KLM's Transavia Revenues Forecast**, 2022-2027

Transavia	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Traffic (in RPK million)	24 920	27 480	30 303	30 939	31 589	32 252
Unit Revenue per RPK (in € cents)	6,39	6,06	5,76	5,85	5,94	6,03
Total Passenger Revenues (in €m)	**1 593**	**1 667**	**1 744**	**1 809**	**1 877**	**1 946**
YoY Change (%)	*57,5%*	*4,6%*	*4,6%*	*3,8%*	*3,7%*	*3,7%*

Source: Own calculations

6.1.4 Maintenance, Repairs and Operations Revenues

Along with Transavia, in the pre-pandemic period, MRO was showing signs of great growth and increasing prominence in AF-KLM operations (*Appendix 4*). The MRO segment is expected to grow 1,39% per year, after AF-KLM geographical considerations, between 2019 and 2026 according to Oliver-Wyman (2022). These estimates were adapted through a CAGR of 18,1% that allows meeting these same forecasts. From 2026 to 2031, it forecasts a 2,3% growth rate.

Table 6: **AF-KLM's MRO Revenues Forecast**, 2022-2027

Maintenance	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Third-Party Revenues (in €m)	**1 209**	**1 428**	**1 687**	**1 993**	**2 355**	**2 409**
YoY Change (%)	*18,1%*	*18,1%*	*18,1%*	*18,1%*	*18,1%*	*2,3%*

Source: Own calculations

6.1.5 Other Revenues

"Other Revenues" has shown a residual value over the last 7 years (*Appendix 5*), ranging from 0,1% to 0,3% of Total Revenues. It is therefore safe to assume that this item will not change substantially. The historical average of the last 5 years was assumed.

Table 7: **AF-KLM's Other Revenues Forecast**, 2022-2027

Other Revenues	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**

Total Sales (in €m)	**32**	**37**	**46**	**48**	**50**	**51**
% of Total Revenues	*0,2%*	*0,2%*	*0,2%*	*0,2%*	*0,2%*	*0,2%*

Source: Own calculations

6.1.6 Total Revenues

By summing up all the forecasts from the previous sections, we finally arrive at the Grand Total. There is an accelerated recovery of revenues in the coming years, with the expectation of returning to a pre-pandemic situation in 2024/2025.

Table 8: **AF-KLM's Total Revenues Forecast**, 2022-2027

	2022F	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Grand Total (in €m)	**18 584**	**21 683**	**26 838**	**27 986**	**29 221**	**30 131**
YoY Change (%)	*29,8%*	*16,7%*	*23,8%*	*4,3%*	*4,4%*	*3,1%*

Source: Own calculations

6.2 Operating Expenses

6.2.1 External Expenses

Of all the categories, Aircraft Fuel is the one with the greatest historical impact in the context of external operating expenditures (*Appendix 11*). In order to predict future fuel expenses, a regression was used. The X-variables were the historical Crude Oil Price and AF-KLM's Total Revenues, due to their strong correlation with the Aircraft Fuel Expenses, compiling the last 10 years of information. The regression is as follows, with the regression statistics details being present in *Appendix 12*:

$$\boldsymbol{Aircraft\ Fuel\ Expenses_t = -2107 + 0,19 \times Total\ Revenues_t + 51 \times Avg.Crude\ Oil\ Price_t}$$

By applying the regression, and referring to *Section 6.1.6 Total Revenues* and the crude oil forecasts present in World Bank (2022), we arrive at the following table:

Table 9: **AF-KLM's Aircraft Fuel Expenses Forecast**, 2022-2027

	2022F	2023F	2024F	2025F	2026F	2027F
Crude oil, Avg $/bbl	100,0	92,0	80,0	71,0	66,2	66,6
USD/EUR Forward Rate	1,12	1,14	1,16	1,18	1,19	1,21
Crude oil, Avg €/bbl	**89,4**	**80,8**	**69,0**	**55,9**	**55,5**	**55,1**

Aircraft Fuel Expenses (in €m)	**5 944**	**6 096**	**6 474**	**6 254**	**6 244**	**6 395**
YoY Change (%)	*116,3%*	*2,6%*	*6,2%*	*-3,4%*	*-0,2%*	*2,4%*

Source: Own calculations, World Bank

Having only access to forecasts up to 2024, the remaining years assumed a linear progression of these same estimates, floored by World Bank (2021) forecasts. Thus, with the recent rise in energy prices, particularly in oil, the fear described in *Section 5.1 Fuel Price Risk* via *Table 9* is confirmed, as it is expected a substantial energy bill in the coming years. All other components of External Expenses were forecasted by the average of the last 5 years of their weight in Total Revenues, as they present reasonable stability.

Table 10: **AF-KLM's External Expenses Forecast**, 2022-2027

External Expenses	2022F	2023F	2024F	2025F	2026F	2027F
Aircraft fuel	5 944	6 096	6 474	6 254	6 244	6 395
Chartering Costs	397	463	573	597	624	643
Landing fees and en route charges	1 439	1 679	2 078	2 167	2 262	2 333
Catering	534	623	771	804	839	865
Handling charges and other operating costs	1 269	1 481	1 833	1 912	1 996	2 058
Aircraft maintenance costs	2 000	2 333	2 888	3 011	3 144	3 242
Commercial and distribution costs	638	744	921	960	1 002	1 034
Other Costs	1 402	1 636	2 025	2 112	2 205	2 274
Subtotal (in €m)	**13 622**	**15 055**	**17 563**	**17 816**	**18 317**	**18 845**
YoY Change (%)	*54,3%*	*10,5%*	*16,7%*	*1,4%*	*2,8%*	*2,9%*

Source: Own calculations

6.2.2 Salaries and related costs

Salaries and related costs weigh heavily in AF-KLM's budget (*Appendix 13*). The process of reducing the number of working personnel has been underway for a decade and suffered a sharp

acceleration in the COVID's years (*Appendix 14*). From 2012 to 2021, the Ground Staff suffered a significant reduction. Cabin Crew and Flight Deck Crew workers showed relatively stable numbers with a slightly positive growth trend. These trends are considered in the forecasts.

For the coming years, permanent workers are expected to reach pre-crisis numbers in 2024, in order to respond to the recovery in demand and supply of passenger air travel. Thus, recovery CAGRs were calculated, which assume that in 2024 these three categories of workers will again reach the 2019's figures. Thereafter, each category grows or declines at a rate identical to the average growth rate for the period 2016-2019. Wage compensation grows at a rate of 1,5% per year, which was the average growth rate of annual remuneration over the past decade and Social Contributions remain stable at around 21% of total Wages and Salaries, as can be seen from the average value of the last decade (*Appendix 14*).

Table 11: **AF-KLM's Wages and Salaries & Social Contributions Forecast**, 2022-2027

	2022F	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Ground Staff	48 326	51 246	54 342	53 870	53 402	52 938
YoY Change (%)	*6,0%*	*6,0%*	*6,0%*	-0,9%	-0,9%	-0,9%
Cabin Crew	22 019	24 240	26 684	27 141	27 607	28 080
YoY Change (%)	*10,1%*	*10,1%*	*10,1%*	1,7%	1,7%	1,7%
Flight Deck Crew	8 549	8 945	9 360	9 672	9 994	10 327
YoY Change (%)	*4,6%*	*4,6%*	*4,6%*	3,3%	3,3%	3,3%
Total Staff	**78 894**	**84 430**	**90 386**	**90 683**	**91 003**	**91 345**
YoY Change (%)	*7,0%*	*7,0%*	*7,1%*	*0,3%*	*0,4%*	*0,4%*
Annual Average Remuneration (in €)	**57 573**	**58 420**	**59 280**	**60 153**	**61 038**	**61 936**
YoY Change (%)	*1,5%*	*1,5%*	*1,5%*	*1,5%*	*1,5%*	*1,5%*
Wages and Salaries (in €m)	**4 542**	**4 932**	**5 358**	**5 455**	**5 555**	**5 658**
YoY Change (%)	*-2,5%*	*8,6%*	*8,6%*	*1,8%*	*1,8%*	*1,9%*
Social Contributions (in €m)	**934**	**1015**	**1102**	**1122**	**1142**	**1164**
% of Wages and Salaries	*20,6%*	*20,6%*	*20,6%*	*20,6%*	*20,6%*	*20,6%*

Source: Own calculations

Temporary Workers were the big victims of COVID, which were reduced from an average of 3000 workers to less than 1000, as it is a worker class more sensitive to economic cycles (*Appendix 15*). The calculation rationale follows the footsteps of permanent workers. Historically, the cost per temporary worker has increased at an average rate greater than that of permanent workers (5,7% vs 1,5%), and this assumption holds for *Table 12*.

Table 12: **AF-KLM's Temporary Employees and Cost Forecast**, 2022-2027

	2022F	2023F	2024F	2025F	2026F	2027F
Temporary Employees	**1 427**	**2 083**	**3 042**	**3 048**	**3 054**	**3 060**
YoY Change (%)	*46,0%*	*46,0%*	*46,0%*	*0,2%*	*0,2%*	*0,2%*
Cost of Temporary Employees (in €m)	***133***	***205***	***316***	***335***	***354***	***375***
YoY Change (%)	*54,3%*	*54,3%*	*54,3%*	*5,9%*	*5,9%*	*5,9%*
Cost Ratio	0,093	0,098	0,104	0,110	0,116	0,123
YoY Change (%)	*5,7%*	*5,7%*	*5,7%*	*5,7%*	*5,7%*	*5,7%*

Source: Own calculations

The Dutch government program NOW aims to help companies pay wages during the pandemic. AF-KLM was no exception, absorbing €1049 and €771 million in 2020 and 2021, respectively (*Appendix 13*). The program will remain active until the impact of the pandemic disappears and companies do not experience salaries' payment problems. Thus, this item will drop linearly in 2022 and 2023 and will disappear in 2024. Keeping this in mind, all other items maintain their relative average weight in Total Revenues in the last 5 years. Here is the final table:

Table 13: **AF-KLM's Salaries and Related Costs Forecast**, 2022-2027

Salaries and Related Costs	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Wages and salaries	4542	4932	5358	5455	5555	5658
Pension costs linked to defined contribution plans	625	730	903	942	983	1014
Net periodic pension cost of defined benefit plans	258	301	373	389	406	419
Social contributions	934	1015	1102	1122	1142	1164
Cost of temporary employees	133	205	316	335	354	375
Profit sharing	71	83	102	107	112	115
Other expenses	-4	-5	-6	-7	-7	-7
NOW Program	-493	-215	0	0	0	0

Subtotal (in €m)	**6 066**	**7 046**	**8 149**	**8 343**	**8 546**	**8 737**
% of Total Operating Expenses	*13,6%*	*16,1%*	*15,7%*	*2,4%*	*2,4%*	*2,2%*

Source: Own calculations

6.2.3 Depreciation, Amortization and Provisions

This item comprises depreciation and amortization of tangible, intangible, and right-of-use assets (*Appendix 16*). For the purposes of calculating FCFs, residual provisions are also included in this category. In order to calculate the expected non-current assets' depreciation, it is necessary to forecast the values of these same assets.

Flight equipment requires greater attention. When analysing its fleet (*Appendix 18*) it is possible to identify some trends:

(1) It has been systematically decreasing, from 605 in 2012 to 536 in 2021. There is an increasing investment in medium-haul aircraft, correlated with Transavia's expansion, and a progressive departure from the more limited regional fleet. Long-haul has practically the same number of planes since 2012 and the exclusive Cargo aircraft have remained at 6 for the last 5 years.

(2) In the presentation of results for the 2021's last quarter, the airline announced its intention to keep 50% of its fleet in operating leases in the coming years.

Considering the recent increase/decrease in the different types of aircraft, it is expected that the Long-Haul and Cargo fleet will remain the same, and that the Medium-Haul and regional fleet will increase/decrease at the same rate as in the last 5 years (+4 and -7 per year, respectively). The 40/10/50 rule of the announced fleet management strategy will also be maintained: 40% owned, 10% in financial leases and 50% in operating leases. It is important to note that the ratio of owned aircraft relative to gross flight equipment has always been between 1.0% and 1.1% in recent years and that the ratio between depreciation charged and gross flight equipment has always been between 6,5% and 5,0% in the last 5 years (*Appendix 17*). It is therefore acceptable to extend these assumptions into the near future.

Table 14: **AF-KLM's Fleet and Depreciation Forecast**, 2022-2027

	2022F	2023F	2024F	2025F	2026F	2027F
Total Fleet	**533**	**530**	**527**	**524**	**521**	**518**
Owned Aircraft (40% of Total Fleet)	*213*	*212*	*211*	*210*	*208*	*207*
Owned Aircraft / Gross Flight Equipment	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Gross Flight Equipment	**20 463**	**20 367**	**20 271**	**20 175**	**19 983**	**19 887**
Depreciation / Gross Flight Equipment	*5,8%*	*5,8%*	*5,8%*	*5,8%*	*5,8%*	*5,8%*
Flight Equipment Depreciation	**1 190**	**1 185**	**1 179**	**1 174**	**1 162**	**1 157**

Source: Own calculations

Other PPE and intangible assets were forecast following the assumption that they would grow at the same pace as in the last 5 years. Once again, the annual depreciation/amortization charged versus gross values have been historically stable (between 3,9% and 3,7% for Other PPE and between 6,9% and 8,6% for intangibles in the last 5 years). As for the flight equipment, an average value was assumed for the coming years.

Table 15: **AF-KLM's Other PPE, Intangible Assets and D&A Forecast**, 2022-2027

	2022F	2023F	2024F	2025F	2026F	2027F
Gross Other PPE (in €m)	**5 038**	**5 074**	**5 109**	**5 145**	**5 181**	**5 218**
Depreciation / Gross Other PPE	3,8%	3,8%	3,8%	3,8%	3,8%	3,8%
Gross Intangible Assets (in €m)	**2483**	**2601**	**2 725**	**2 854**	**2 989**	**3 131**
Amortization / Gross Intangible Assets	*7,7%*	*7,7%*	*7,7%*	*7,7%*	*7,7%*	*7,7%*
Other PPE Depreciation (in €m)	**193**	**194**	**195**	**197**	**198**	**200**
Intangible Assets Amortization (in €m)	**191**	**200**	**209**	**219**	**230**	**241**

Source: Own calculations

Right-of-use Assets began to be recognized differently with IFRS 16 and it appears for the first time in the depreciation section in 2017. An important change is that IFRS 16 *"abolishes the distinction between an operating lease and a finance lease in the financial statements of lessees"*, causing AF-KLM to recognize a right-of-use asset in the inception of the lease and to charge its respective annual depreciation. Operating and financing lease aircraft are included in this category. As the company's objective is to maintain the ratio between owned and financial/operating leases, one can reasonably assume that the ratio between depreciation of

right-of-use assets remains stable as well. The ratio between right-of-use assets depreciation and total depreciation has fluctuated between 42,4% and 46,0% since 2017. The value of 44,4% for the next years was used as an approximation. Provisions follow the average weight of the last 5 years in Total Revenues. The final table is as following:

Table 16: **AF-KLM's Depreciation, Amortization and Provisions Forecast**, 2022-2027

Depreciation, Amortization and Provisions	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Flight Equipment	1 190	1 185	1 179	1 174	1 162	1 157
Other PPE	193	194	195	197	198	200
Intangible Assets	191	200	209	219	230	241
Right-of-use Assets	1 256	1 260	1 264	1 268	1 269	1 274
Inventories (Provision)	19	22	27	28	30	30
Trade Receivables (Provision)	55	64	79	82	86	89
Risks and Contingencies (Provision)	-48	-56	-70	-73	-76	-78
Subtotal	**2 855**	**2 868**	**2 884**	**2 896**	**2 899**	**2 912**
YoY Change (%)	*20,4%*	*0,5%*	*0,6%*	*0,4%*	*0,1%*	*0,5%*

Source: Own calculations

6.2.4 Total Operating Expenses

Taxes other Income Taxes and Other Current Income and Expenses, as they demonstrated relative stability (*Appendix 19*), the forecasts followed the assumption that they would remain so in the future, using the average of the weights of the last 5 years in relation to Total Revenues. The expected Total Operating Expenses are summarized in *Table 17*:

Table 17: **AF-KLM's Total Operating Expenses Forecast**, 2022-2027

(in €m)	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
External Expenses	13 622	15 055	17 563	17 816	18 317	18 845
Salaries and Related costs	6 066	7 046	8 149	8 343	8 546	8 737
Depreciation, Amortization and Provisions	2 855	2 868	2 884	2 896	2 899	2 912
Taxes other than Income Taxes	143	167	207	216	225	232
Other Current Income and Expenses	-802	-936	-1 159	-1 208	-1 262	-1 301
Grand Total	**21 884**	**24 199**	**27 644**	**28 062**	**28 725**	**29 425**

YoY Change (%)	*37,3%*	*10,6%*	*14,2%*	*1,5%*	*2,4%*	*2,4%*

Source: Own calculations

6.3 Capital Expenditures

AF-KLM CAPEX is mainly divided into three segments: (1) Acquisition of flight equipment, (2) acquisition of other tangible assets, as industrial equipment for the flight operations, maintenance, and IT and (3) acquisition of intangible assets, like the purchase of software and capitalized IT development. There is also a fourth residual CAPEX line regarding accounts payable on acquisitions.

Appendix 20 shows that investment in new aircraft is the largest historical share of CAPEX. This is the reality of most airlines as they need to be constantly renewing and investing in new airplanes in order to keep up with the growing traffic and to replace old airplanes with more advanced and technological ones, which is by nature very costly. In fact, because of its commitment to reduce CO_2 emissions by 50% by 2030 compared to 2005, AF-KLM has decided to renew its fleet to more fuel-efficient, high performance aircraft models.

Unfortunately, due to the negative impact of the pandemic, in the 2020 Annual Report, AF-KLM announced that it was forced to adapt its CAPEX plan and *"to defer non-essential capital expenditures and internal projects*". Thus, in the years 2020 and 2021, there was a significant decrease in investment, with the need to allocate funds to other fundamental areas. It was defined in 2021 that, for the coming years, AF-KLM would spend an average of €2,8bn per year in CAPEX, as opposed to the ambitious €4bn per year forecast in 2019 for 2020-2024. Therefore, the Capital Expenditures are estimated to be €2,5bn in 2022, €3bn in 2023 and €2,9bn in 2024, with 80% in fleet renewal investments and 20% related to IT/ground. The average of the last 10 years is very similar to this 80/20 distribution (*Appendix 20*), and hence will serve as a basis for the period 2022-2027. For the period 2025-2027, Total CAPEX is assumed to be at an average level of 9,8% of Total Revenues, its last 10-year historical average.

Table 18: **AF-KLM's Capital Expenditures Forecast**, 2022-2027

Capital Expenditures (in €m)	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Acquisiton of flight equipment	2 019	2 422	2 342	2 215	2 312	2 384
Acquisiton of other tangible assets	237	284	275	260	271	280
Acquisiton of intangible assets	268	321	311	294	307	316

Accounts payble on acquisitions	-24	-28	-27	-26	-27	-28
Total (in €m)	**2 500**	**3 000**	**2 900**	**2 743**	**2 864**	**2 953**
YoY Change (%)	*13,5%*	*20,0%*	*-3,3%*	*-5,4%*	*4,4%*	*3,1%*
% of Revenues	*13,5%*	*13,8%*	*10,8%*	*9,8%*	*9,8%*	*9,8%*

Source: AF-KLM Own Projections, Own calculations

6.4 Net Working Capital

NWC is defined here as the sum of all current assets other than cash and cash equivalents or short-term investments, minus all current liabilities other than interest-bearing debt (current portion of financial debt, lease debt and bank overdrafts). NWC assesses a company's liquidity and short-term financial health. *Appendix 21* shows the airline's negative NWC history, always navigating between -€4,900bn and -€6,900bn, without an apparent worsening or improvement situation. This is not an idiosyncrasy of AF-KLM, as Lufthansa, EasyJet and Ryanair present similar evidence. Its operating cycle relies heavily on supplier financing via trade payables, and also through cash received for ticket sales not yet recognized in the income statement.

In an attempt to predict the value of these current assets and liabilities, it is necessary to refer to *Appendix 22*. In the pre-COVID period, all accounts maintained a very stable proportion of revenues for the corresponding period and only in 2020 and 2021 this situation changed. In the line of thought so far followed, and assuming that once most of the COVID conditions are overcome by 2024, these current items will reach their long-term equilibrium proportion of the past decade. That is, until 2024 these items decrease again to their average percentage for the period between 2012-2019, maintaining them thereafter.

Table 19: **AF-KLM's Net Working Capital Forecast**, 2022-2027

(% of Revenues)	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Inventories	3,3%	2,7%	2,2%	2,2%	2,2%	2,2%
Trade Receivables	9,4%	8,5%	7,6%	7,6%	7,6%	7,6%
Other Current Assets	7,7%	5,6%	4,1%	4,1%	4,1%	4,1%
Provisions	4,4%	3,1%	2,2%	2,2%	2,2%	2,2%
Trade Paybales	11,6%	10,3%	9,2%	9,2%	9,2%	9,2%
Deffered Revenues on Ticket Sales	15,3%	12,6%	10,4%	10,4%	10,4%	10,4%
Frequent Flyers Programs	4,9%	3,9%	3,1%	3,1%	3,1%	3,1%
Other Current Liabilities	19,1%	15,2%	12,2%	12,2%	12,2%	12,2%

(in €m)	2022F	2023F	2024F	2025F	2026F	2027F
Inventories	608	586	598	624	652	672
Trade Receivables	1 755	1 833	2 030	2 117	2 210	2 279
Other Current Assets	1 428	1 214	1 095	1 142	1 192	1 229
Provisions	820	682	603	628	656	677
Trade Paybales	2 147	2 240	2 479	2 585	2 699	2 783
Deffered Revenues on Ticket Sales	2 838	2 739	2 803	2 923	3 052	3 147
Frequent Flyers Programs	914	846	830	866	904	932
Other Current Liabilities	3 543	3 304	3 269	3 408	3 559	3 670

Net Working Capital (in €m)	**-6 472**	**-6 179**	**-6 260**	**-6 528**	**-6 816**	**-7 028**
***Changes in Net Working Capital* (in €m)**	***-377***	***293***	***-81***	***-268***	***-288***	***-212***
Changes in Net Working Capital (%)	*6,2%*	*-4,5%*	*1,3%*	*4,3%*	*4,4%*	*3,1%*
% of Revenues	-29,6%	-25,5%	-22,6%	-23,3%	-23,7%	-23,9%

Source: Own calculations

6.5 Cost of Capital

The most accurate discount rate used to calculate the present value of the company's different free cash flows is the WACC, as it incorporates the different forms of financing and types of returns demanded by investors.

6.5.1 Cost of Equity

The Cost of Equity was calculated according to the CAPM (*Formula 3*). The inputs are (1) the Risk-Free Rate, (2) the Firm's Beta and (3) the Market Risk Premium.

(1) The risk-free rate chosen for the European market was the Germany 10-Year Government Bond. At the beginning of 2022, the rate entered positive territory and stood at 0,28%.

(2) The Beta was obtained through a regression that compares monthly excess returns of AF-KLM and a reference market index, which in this specific case was the French CAC-40 index. The time interval analysed was 5 years, starting March 2017. The regression results assigned a Beta of 1,77.

(3) The Market Risk Premium was calculated through a weighted average between the Equity Risk Premiums by geographic areas provided by Damodoran (2021) and the average of the last 5 years of revenues by the corresponding geographical areas. The final value was 6,09%.

$$\boldsymbol{Cost\ of\ Equity\ (Ke) = 0,28\% + 1,77 \times 6,09\% = 11,07\%}$$

6.5.2 Cost of Debt

The Cost of Debt of 5,48% was calculated as the weighted average of the YTM outstanding long-term debt. After deducting the 21% marginal tax that affects AF-KLM, in order to consider the tax shield characteristic of debt, we get the post-tax Cost of Debt:

$$\boldsymbol{Cost\ of\ Debt\ (Kd) = 5,48\% \times (1 - 0,21) = 4,33\%}$$

The value obtained reveals a debt financing capacity worsening, due to the recent operating results, high levels of indebtedness, international instability and rising interest rates to combat inflation. This reality contrasts sharply with the pre-pandemic Cost of Debt of 2,20% in 2019.

6.5.3 WACC

The weight of the cost of equity and debt in the WACC formula, if considered at current market values, would reveal a situation of proportions disequilibrium. The market value of debt (check *Section 6.7 Target Price*) versus market capitalization (€2,300bn at 3,66 per share) would be 85/15. This ratio is not representative of a long-term situation, but rather a short-term one, given the exceptional circumstances that the airline is experiencing, of sudden accumulation of a high volume of debt. This way, the target rate that the company assumed as its objective before the pandemic, of 52/48, was considered.

$$\boldsymbol{WACC = 52\% \times 4,33\% + 48\% \times 11,07\% = 7,57\%}$$

6.6 Free Cash Flows and Terminal Value

Before proceeding to the FCFF calculation, it is important to comment on the expected operational results of AF-KLM and what fiscal consequences may arise. As can be seen in *Table 20*, EBIT sinks again in relation to 2021 (*Appendix 23*) and only starts to be positive again in 2026, which seems to raise an apparent inconsistency given the recovery trend. This

drop in 2022 is caused by two opposing vectors: the still timid recovery of expected revenues and the disproportionate increase in expenses related to oil and jet fuel.

Table 20: **AF-KLM's EBIT Forecast**, 2022-2027

	2022F	2023F	2024F	2025F	2026F	2027F
Total Revenues	18 584	21 683	26 838	27 986	29 221	30 131
Total Operating Expenses	21 884	24 199	27 644	28 062	28 725	29 425
EBIT (in €m)	**-3 300**	**-2 516**	**-806**	**-76**	**496**	**706**

Source: Own calculations

This situation has associated tax consequences. The negative operating result will give rise to the so-called Net Operating Losses (NOL). As we are facing negative and consequently non-taxable results, NOL work as a tax credit that will serve to offset past and future taxes, working as a deferred tax asset. However, the problem arises of treating these items differently in the French and Dutch tax frameworks, making it difficult to accurately forecast them.
Therefore, it is necessary to create a simplified version of a schedule of NOL (*Table 21*), which allows us to establish a logic between reporting periods. The assumption was made that the value would be fully recoverable, as the end-2027 NOL is low compared to the positive trend in EBIT at that time, and hence would not expire. There are therefore no taxes payable in the period 2022-2027, due to the substantial presence of unused NOLs, making pre-tax EBIT equal to after-tax EBIT. The starting point of NOLs is €342m, present in the 2021 Annual Report Notes (€285m and €57m from the French and Dutch fiscal groups, respectively).

Table 21: **AF-KLM's Net Operating Losses Schedule**, 2022-2027

(in €m)	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
EBIT	**-3 300**	**-2 516**	**-806**	**-76**	**496**	**706**
Beginning NOL Balance	**342**	**3 642**	**6 158**	**6 964**	**7 040**	**6 545**
(+) Created	3 300	2 516	806	76	0	0
(-) Used	0	0	0	0	-496	-706
Ending NOL Balance	**3 642**	**6 158**	**6 964**	**7 040**	**6 545**	**5 839**

Source: Own calculations

Lastly, the stable growth rate *g* used in the Terminal Value calculation needs to be analysed. For a mature company like AF-KLM, this can never be greater than the growth rate of the economy in which it operates and, therefore, a logical starting point will be to understand what rates are expected in countries where AF-KLM remains active and assign a cap. According to the OECD, real world GDP is expected to grow by an average of 2% per year in the period 2021-2060. Two-thirds of revenues come from developed European countries, namely France and the Netherlands, where rates are considerably more conservative: 1.3% and 1.4%, respectively. Even so, both are above the eurozone average of 1.1% and similarly related with North America, which has 1.4%. All other regions in *Figure 8*, which are made up of many developing regions, have more aggressive growth prospects. Assuming that the geographic distribution by revenue will not change materially, it would be prudent to assume a stable growth rate *g* of 1.3%: ambitiously similar to the French, Dutch and North American rates but safeguarded by the strong growth prospects of the emerging regions where AF-KLM also operates.

Table 22: **AF-KLM's Free Cash Flows and Terminal Value Forecast**, 2022-2027

	2022F	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
EBIT	-3 300	-2 516	-806	-76	496	706
CAPEX	2 500	3 000	2 900	2 743	2 864	2 953
Changes in NWC	-377	293	-81	-268	-288	-212
Depreciation	2 855	2 868	2 884	2 896	2 899	2 912
FCFF (in €m)	**-2 568**	**-2 942**	**-740**	**345**	**819**	**878**

NOL (in €m)
5 839

Terminal Value (in €m)
14 003

Source: Own calculations

6.7 Target Price

Once the cash flows have been calculated, they are discounted to the present using the discount factor WACC. In the end, there are 3 different lines of PVs (FCF, TV and NOL), which will together form the Enterprise Value. If we subtract the market value of debt and add the cash and cash equivalents to the enterprise value, we arrive at the estimated value of equity. Dividing the equity by the number of shares outstanding, we arrive at the price of €3,44 per share.

Table 23: **AF-KLM's Target Price**

(in €m)	2022F	2023F	2024F	2025F	2026F	2027F
FCFF	-2 568	-2 942	-740	345	819	878
PV Factor	0,930	0,864	0,803	0,747	0,694	0,646
PV FCFF	-2 388	-2 542	-595	257	568	567

TV	NOL
14 003	5 839

PV NOL	3 769
PV FCFF	-4 132
PV TV	9 039

Enterprise Value	8 676
MV of Debt	13 606
Cash	7 142
Implied Equity	2 212

N. of shares	643m
Share Price	€3,44

WACC	7,57%
g for TV	1,30%

Source: Own calculations

6.8 Sensitivity Analysis

The sensitivity analysis intends to test the reactivity of the price per share by changing variables. In *Table 24*, the price sensitivity was tested comparing WACC variations and changes in the TV growth rate. It can be concluded that the WACC is undoubtedly responsible for the most violent price variations and has two apparent causes, if we consider the relatively rigid cost of debt: the choice of beta and the determination of the debt/capital and equity/capital ratios in the WACC calculation. In its turn, *Table 25* shows what would be the impact of a different in 2022 Total Revenues, which in this research is expected to be 29,8%. The table reflects only revenue increases, maintaining the recovery year as 2024 and the original CAPEX plans, as well as the corresponding depreciation. In reality, the company would adjust its operations and investment plans to deal with an increase or decrease in expected revenues, and the FCFs would change. Despite all its limitations, the table reveals a significant reaction whether revenues turn out to be more optimistic or pessimistic. A 60% increase would put the price per share at €4,33, while if revenues stagnated the price would drop to €2,57.

Table 24: **Sensitivity Analysis: WACC (Vertically) vs TV Growth Rate (Horizontally)**

	1,00%	1,10%	1,20%	1,30%	1,40%	1,50%	1,60%
6,75%	5,68	5,96	6,26	6,56	6,88	7,21	7,55
7,00%	4,72	4,97	5,24	5,51	5,80	6,10	6,40

7,25%	3,83	4,06	4,30	4,55	4,81	5,08	5,35
7,50%	3,01	3,22	3,44	3,67	3,90	4,14	4,39
7,75%	2,25	2,44	2,65	2,85	3,06	3,28	3,51
8,00%	1,54	1,72	1,91	2,09	2,29	2,49	2,70
8,25%	0,89	1,05	1,22	1,39	1,57	1,75	1,94

Source: Own calculations

Table 25: **Sensitivity Analysis: 2022 Revenues Short-Term Impact**

2022 Revenue Growth	*Change (+/-)*	Total Revenues (in €m)	Share Price
0%	*-30%*	14 315	€2,57
10%	*-20%*	15 747	€2,86
20%	*-10%*	17 178	€3,15
30%		**18 584**	**€3,44**
40%	*+10%*	20 041	€3,74
50%	*+20%*	21 473	€4,04
60%	*+30%*	22 904	€4,33

Source: Own calculations

7. Relative Valuation

The structure of the relative valuation is composed by the definition of a group of comparable companies, choice of relevant multiples and final calculations that allow the definition of AF-KLM's price per share.

7.1 Peer Group

In order to construct a preliminary list of peer companies, a possible first step is to resort to commercial classification systems by delimiting the industry where AF-KLM operates. In this specific case, using the TRBC, the search order is composed of the economic sector (Industrials), business group (Transportation), industry group (Passenger Transportation Services) and industry (Airlines). Attention will fall on the 5240601010 group, which contains around 118 airlines. A first filter related to Market Capitalization was applied to simplify the sample, eliminating all airlines that had less than €2bn, reducing it to 35 airline groups.

In order to further reduce the sample, other characteristics related to size and growth were analysed. The number of passengers that all these airlines transported in 2019 was compared, as this is the closest year whose performance best resembles a so-called normal year of operations, and the expected rate of 2022's revenue growth was also analysed. *Appendix 24* summarizes the results obtained in a scatter plot, compiling data obtained via the Thomson Reuters platform. It can be seen that the upper part of the graph is dedicated to major players that normally transport more than 80 million passengers per year and which have modest revenue growth rates (exception made to Ryanair). Generally speaking, they represent the established airlines and global players. At the bottom of the graph are all those that only cover specific regions (such as certain Pacific airlines) and/or that are still at a very early stage of their business cycle, presenting greater opportunities for growth. *Appendix 24* delimits a group with similar characteristics to AF-KLM, composed by: American Airlines, Delta Air Lines, United Airlines, China Southern Airlines, Lufthansa, Ryanair, Southwest Airlines, IAG, Air China and EasyJet.

(1) US Airlines: Of the four airlines that make up this lot, the one with the best arguments is the American Airlines. It has a similar 5-Year monthly Beta (1.59 vs AF-KLM = 1.79) which reveals similar market reaction behaviour. It has a very similar capital structure: it is the only one of the 4 with negative equity, similar to AF-KLM, its Net

Debt to Total Capital is similar (0,83 vs AF-KLM = 0,73) and its % Long-term Debt to Total Capital is practically the same (115,8% vs AF-KLM = 114,3%). Its operating results have reasonably similar contribution distributions, with a Passenger Revenues segment dominating and a small Cargo segment normally contributing less than 5% of Total Revenues (4,4% in 2021). The other three US airlines do not have strong enough arguments to dominate the counterargument of operating in different geographic environments and having different capital structures.

(2) Chinese Airlines: The fact that these two airlines are mostly owned by the Chinese state greatly complicates the possibility of being an AF-KLM peer company, namely regarding their different operating strategies and exposure to economic variables. Both operate in a different market, with different betas from AF-KLM (Air China = 1,14; China Southern Airlines = 0,90) and with capital structures not as leveraged as AF-KLM, which has negative equity (Air China and China Southern Airlines Debt-to-Equity: 230,7% and 234,5%, respectively). In this analysis, they were not considered in the final sample.

(3) European Airlines: they all enter the final batch of peers, as they all coexist in the same demand and supply environment and compete with each other to capture customers. Lufthansa is the closest peer, with an identical operational structure: a dominant passenger transport segment ("Network Airlines"), a cargo segment ("Logistics") and an MRO segment ("Lufthansa Technik"). IAG, which concentrates a series of European airline brands, also has the same operations segmentation. EasyJet and Ryanair, which invest in the price competition strategy, have the particularity of also competing with Transavia.

The final peer group contains the following airlines: the American Airlines, Ryanair, EasyJet, Lufthansa and IAG.

7.2 Multiples

The multiples analysis struggles to find steadiness due to the present AF-KLM operational instability, incorporating a disproportionate weight of the current momentum in the price per share. A possible solution would be to calculate the multiples in the year in which the operations recover their normal motion, continuing with the assumption of the year 2024 as the post-crisis

year, and later discount these values to the present through the WACC. This way, we partly avoid the current turmoil of results that are not representative of a long-term situation. However, there is still a class of multiples that cannot be used. Even in 2024, according to the preceding calculations, AF-KLM's earnings will still be negative. The P/E, the PEG and the Price-to-book ratios are examples of multiples that will not provide interpretable results. Due to these inconsistencies, two different multiples were calculated: EV/EBITDA and EV/Revenue. The first one was calculated for 2025, in order to ensure relative stability of EBITDA, and the multiples publicly available on Thomson Reuters Eikon for 2024 were maintained for 2025, assuming trend convergence. The second was applied for the Next Twelve Months (NTM). Both are discounted to the present through the WACC.

Table 26: **Peers Multiples and Estimated Prices**

	2025 Forward EV/EBITDA	**NTM Forward EV/Revenue**
American Airlines	5,70x	0,80x
Lufthansa	3,60x	0,57x
Easyjet	3,56x	0,81x
Ryanair	5,85x	1,83x
IAG	3,72x	0,91x
Median	**3,72x**	**0,81x**
2025 EBITDA & 2022 Revenues	2 820	18 584
2025 EV & 2022 EV	10 489	15 053
Current Enterprise Value	7 834	13 994
Implied Equity	1 371	7 530
Share Price	**€2,13**	**€11,72**

Source: Own Calculations and Thomson Reuters Eikon (2022)

7.3 Target Price

The final price of the relative valuation will consider the significance and accuracy of both multiples. Given the greater relevance of EV/EBITDA over EV/Revenue, and for the reasons described in *Section 2.3.2*, a weighting of 75/25 was assigned, respectively. Therefore, the implied price would be €4,53.

$$\boldsymbol{Relative\ Valuation\ Price = 75\% \times €2,13 + 25\% \times €11,72 = €4,53}$$

8. Final Target Price vs Equity Research Report

This chapter merges both results of both assessments and compare the entire process with a formal equity research report, to understand how differently this report addresses the state of AF-KLM. The final price per share that will be contemplated will have a weighting that considers the level of detail of the DCF valuation and the lack of it in the relative valuation. The relevance of the DCFs entitles this specific valuation method to have a greater weight in the final assessment, which will be 80%. The choice of 80% cannot be interpreted as a rigid weighting, nor the final price, as it only aims to underline the relevance and granularity of one type of evaluation over another, and to define a price reference where other valid values can orbit.

$$\boldsymbol{Final\ Thesis\ Target\ Price} = \mathbf{80\%} \times \mathbf{€3,44} + \mathbf{20\%} \times \mathbf{€4,53} = \mathbf{€3,66}$$

The equity research report belongs to the ING Group, and it was published in the early 2022. At the time of publication, the AF-KLM's 4th quarter results were not yet known and therefore the 4th quarter is forecasted.

Table 27: **ING Target Price vs Thesis Target Price**

(in €m)		2018	2019	2020	2021F	2022F	2023F
Revenues	ING	26 224	27 188	11 088	14 248	20 211	23 055
	Thesis				14 315	18 584	21 683
Operating Expenses	ING	24 822	26 048	15 642	13 698	17 415	19 044
	Thesis				15 941	21 884	24 199
EBITDA	ING	4 290	4 127	-1 695	550	2 796	4 011
	Thesis				745	-445	352
EBIT	ING	1 402	1 140	-4 554	-1 784	585	1 973
	Thesis				-1 626	-3 300	-2 516

	ING	Thesis
Cost of Equity *Ke*	11,05%	11,07%
Cost of Debt *Kd*	7,00%	4,33%
Debt/Capital	40%	52%
Equity/Capital	60%	48%

WACC	9,00%	7,57%
TV Growth Rate *g*	1,50%	1,30%
DCF Valuatuon Price	**€4,16**	**€3,44**

	ING	**Thesis**
Peer Group	IAG Lufthansa Ryanair EasyJet	IAG Lufthansa Ryanair EasyJet American Airlines
Multiples Used	EV/EBITDA EV/Sales Net Debt/EBITDA	EV/EBITDA EV/Sales
Relative Valuation Price	**€4,00**	**€4,53**

	ING	**Thesis**
DCF Valuatuon Weight	50%	80%
Relative Valuation Weight	50%	20%
Target Price	**€4,08**	**€3,66**
Publication Date	21/01/2022	May-22

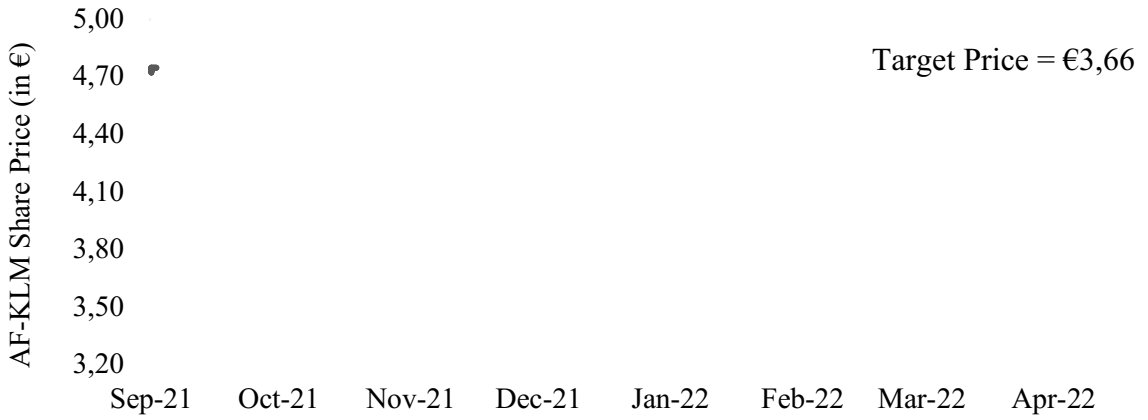
Source: Own Calculations and ING Equity Research Report (2022)

There is a structural difference in perspective regarding the airline's ability to generate revenue in the near future. The report is more optimistic and assumes that AF-KLM will have higher sales than predicted by the thesis, and in the opposite direction, it predicts lower operating expenses. These two forces create a big difference in the operating result between the two studies, starting with the mismatch in the thesis and report values regarding EBITDA and EBIT in the coming years. EBIT is already positive next year for the report and will only be positive again for the thesis in 2026. Inherently, assuming a more optimistic short-term future, DCF's values will increase, as well as the Enterprise Value. However, the report assumes a higher WACC, driven by a high Kd. In the end, both target prices seem to be in the same range of values. The relative evaluation, where the sample of peers and multiples is identical, differs substantially in the final result. This gap is, perhaps, the result of the use of different methodologies. The final price is similar, and points at the same direction (€3,66 vs. €4,08).

9. Conclusion

Difficult times are ahead for airlines, whose structures are being tested to the limit. AF-KLM faces several challenges, starting with the lack of definition regarding COVID and its restrictions, the armed conflict in Eastern Europe and increasing fuel prices. However, the opportunity exists: Passenger Network and Transavia are expected to recover pre-crisis ASKs and Load Factors as early as 2024, the Cargo section is expected to continue to yield above its historical average, as the MRO segment, which will continue to lead the aircraft maintenance and repair market. Even with low-adjusted CAPEX, fleet renewal remains a priority in order to achieve the climate goals that AF-KLM has committed to.

Figure 9: **AF-KLM Share price vs Target Price** 2012-2021



Source: Own Calculations and Thomson Reuters Eikon (2022)

Regarding the valuation methodology used, it seems that DCFs detail the process more and tend to have greater argumentation support. Several aspects are studied and assumptions are made based on detailed forecasts, from the various contributors to revenues to the heavy operating expenses that AF-KLM will likely have to face. The multiples, that have the advantage of quick assembly and comparison, lose out in simplification, especially in times accounting schizophrenia caused by major crises. Assuming earnings will remain negative makes it difficult to use several multiples. Therefore, it was important to weigh that into the final price. The €3,66 target price will be equivalent to a "Hold" in the current situation, as the times ahead are turbulent, and a dose of conservatism is recommended. The ING report corroborates this idea, putting the forecast at €4,08.

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Appendices

Appendix 1: Passenger Network Revenues (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Passengers (in thousands)	75 711	77 328	77 450	79 016	80 163	83 938	85 619	87 624	28 883	35 855
Capacity (in ASK million)	**268 016**	**272 416**	**270 789**	**276 899**	**278 807**	**286 127**	**292 184**	**299 606**	**138 168**	**176 019**
Traffic (in RPK million)	**223 034**	**228 313**	**229 347**	**235 715**	**238 183**	**248 428**	**255 405**	**263 499**	**81 212**	**101 092**
Load Factor	**83,2%**	**83,8%**	**84,7%**	**85,1%**	**85,4%**	**86,8%**	**87,4%**	**87,9%**	**58,8%**	**57,4%**
Scheduled Passenger Revenues (in €m)	19 065	19 200	18 740	19 707	18 846	19 623	19 743	20 408	6 325	8 353
% of Revenues	*95,4%*	*95,5%*	*95,8%*	*95,9%*	*95,8%*	*96,3%*	*96,9%*	*96,6%*	*95,3%*	*96,4%*
Other Passenger Revenues (in €m)	911	912	830	834	836	764	640	711	313	313
% of Revenues	*4,6%*	*4,5%*	*4,2%*	*4,1%*	*4,2%*	*3,7%*	*3,1%*	*3,4%*	*4,7%*	*3,6%*
Total Passenger Revenues (in €m)	**19 976**	**20 112**	**19 570**	**20 541**	**19 682**	**20 387**	**20 383**	**21 119**	**6 638**	**8 666**
Unit Revenue per ASK (in € cents)	7,11	7,05	6,92	7,12	6,76	6,86	6,76	6,81	4,58	4,75
Unit Revenue per RPK (in € cents)	8,55	8,41	8,17	8,36	7,91	7,90	7,73	7,75	7,79	8,26

Appendix 2: Cargo Revenues (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Tonnage transported (in thousands)	1 383	1 341	1 303	1 206	1 130	1 138	1 137	1 110	880	1 053
Capacity (in millions of ATK)	**16 409**	**15 972**	**15 608**	**14 909**	**14 228**	**14 354**	**14 365**	**14 609**	**10 120**	**11 469**
Traffic (in millions of RTK)	**10 576**	**10 089**	**9 843**	**9 007**	**8 441**	**8 595**	**8 657**	**8 467**	**6 829**	**8 058**
Load Factor	**64,5%**	**63,2%**	**63,1%**	**60,4%**	**59,3%**	**59,9%**	**60,3%**	**58,0%**	**67,5%**	**70,3%**
Total Cargo Revenues (in €m)	**3 057**	**2 816**	**2 681**	**2 446**	**2 069**	**2 197**	**2 288**	**2 153**	**2 568**	**3 588**
Scheduled Cargo Revenues (in €m)	2 872	2 619	2 509	2 262	1 904	1 931	1 988	1 843	246	3 167
Unit Revenue per ATK (in € cents)	17,50	16,40	16,08	15,17	13,38	13,45	13,84	12,62	2,43	27,61
Unit Revenue per RTK (in € cents)	28,91	27,91	27,24	27,16	24,51	25,56	26,43	25,43	37,60	44,53

Appendix 3: Transavia Revenues (2014-2021)

	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Passengers (in thousands)	9 908	10 820	13 279	14 773	15 828	16 581	5 182	8 814
Capacity (in ASK million)	**21 299**	**22 432**	**25 762**	**28 456**	**30 850**	**32 867**	**13 312**	**20 097**
Traffic (in RPK million)	**19 136**	**20 169**	**22 983**	**25 793**	**28 392**	**30 303**	**9 828**	**15 012**
Load Factor	**89,8%**	**89,9%**	**89,2%**	**90,6%**	**92,0%**	**92,2%**	**73,8%**	**74,7%**
Total Passenger Revenues (in €m)	**1 057**	**1 099**	**1 218**	**1 436**	**1 595**	**1 744**	**606**	**1 011**
Unit Revenue per ASK (in € cents)	4,92	4,84	4,68	5,00	5,18	5,34	4,41	5,05
Unit Cost per ASK (in € cents)	5,09	5,00	4,68	4,58	4,71	4,94	6,65	5,80
Income from Current Operations	-36	-35	0	118	145	131	-299	-150
Unit Revenue per RPK (in € cents)	5,52	5,45	5,30	5,57	5,62	5,76	6,17	6,73

Appendix 4: Maintenance, Repair and Overhaul Revenues (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Total Revenues (in €m)	3 134	3 280	3 392	3 987	4 182	4 155	4 349	4 617	2 858	2 801
Third-Party Revenues (in €m)	**1 096**	**1 225**	**1 251**	**1 577**	**1 834**	**1 801**	**1 920**	**2 138**	**1 248**	**1 023**
Income from Current Operations	140	159	174	214	238	252	214	260	-543	88
Operating Margin	4,5%	4,8%	5,1%	5,4%	5,7%	6,1%	4,9%	5,6%	-19,0%	3,1%

Appendix 5: Other Revenues (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Total Sales (in €m)	1 901	1 980	961	668	664	250	247	251	157	167

Appendix 6: External Sales & Percentage of Total Revenues (2012-2021)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Passenger Network	19 976	20 112	19 570	20 541	19 682	20 387	20 383	21 119	6 638	8 666
Cargo	3 057	2 816	2 681	2 446	2 069	2 197	2 288	2 153	2 568	3 588
Maintenance	1 096	1 225	1 251	1 577	1 834	1 801	1 920	2 138	1 248	1 023
Transavia	0	0	1 057	1 099	1 218	1 436	1 595	1 744	606	1 011
Other	1 294	1 367	354	47	41	42	38	34	28	27
Total Revenues	**25 423**	**25 520**	**24 913**	**25 710**	**24 844**	**25 863**	**26 224**	**27 188**	**11 088**	**14 315**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Passenger Network	78,6%	78,8%	78,6%	79,9%	79,2%	78,8%	77,7%	77,7%	59,9%	60,5%
Cargo	12,0%	11,0%	10,8%	9,5%	8,3%	8,5%	8,7%	7,9%	23,2%	25,1%
Maintenance	4,3%	4,8%	5,0%	6,1%	7,4%	7,0%	7,3%	7,9%	11,3%	7,1%
Transavia	0,0%	0,0%	4,2%	4,3%	4,9%	5,6%	6,1%	6,4%	5,5%	7,1%
Other	5,1%	5,4%	1,4%	0,2%	0,2%	0,2%	0,1%	0,1%	0,3%	0,2%
Total Revenues	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Appendix 7: Passenger Network - Historical ASK, RPK, Load Factor and Number of Passengers per Region (2012-2021)

Capacity in ASK (in million)	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
North America	57 155	57 076	57 654	60 285	61 586	64 272	66 223	69 677	31 381	42 630
Latin America	28 160	30 255	31 847	33 753	34 089	33 870	36 765	39 153	18 372	23 212
Asia-Pacific	60 519	63 134	61 933	62 945	60 317	60 797	62 079	64 124	27 028	24 238
Africa-Middle East	35 388	36 233	35 752	36 345	36 899	38 430	37 816	36 955	18 066	28 497
Caribbean-Indian Ocean	29 042	28 689	28 206	28 548	30 423	31 031	31 075	30 883	17 739	24 782
Total Long-Haul	**210 264**	**215 387**	**215 392**	**221 876**	**223 314**	**228 400**	**233 958**	**240 792**	**112 586**	**143 359**
Short and Medium-Haul	**57 752**	**57 032**	**55 398**	**55 024**	**55 494**	**57 788**	**58 226**	**58 832**	**25 581**	**32 660**
Total	**268 016**	**272 416**	**270 789**	**276 899**	**278 807**	**286 127**	**292 184**	**299 606**	**138 168**	**176 019**

Traffic in RPK (in million)	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
North America	50 548	50 381	50 728	53 225	53 673	56 933	58 858	62 245	15 657	22 405
Latin America	24 775	26 813	27 788	29 180	29 868	30 365	33 004	34 753	10 943	12 455
Asia-Pacific	51 947	54 006	53 580	54 625	52 848	54 610	56 157	58 008	13 294	8 067
Africa-Middle East	28 527	29 066	28 941	29 561	30 257	31 735	31 575	31 157	11 640	17 771
Caribbean-Indian Ocean	24 155	24 252	24 648	25 066	26 566	27 085	27 325	27 500	12 488	17 656
Total Long-Haul	**179 952**	**184 518**	**185 685**	**191 657**	**193 212**	**200 728**	**206 919**	**213 663**	**64 022**	**78 354**
Short and Medium-Haul	**43 081**	**43 799**	**43 662**	**44 058**	**44 970**	**47 705**	**48 486**	**49 835**	**17 190**	**22 739**
Total	**223 034**	**228 313**	**229 347**	**235 715**	**238 183**	**248 428**	**255 405**	**263 499**	**81 212**	**101 093**

Load Factor	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
North America	88,4%	88,3%	88,0%	88,3%	87,2%	88,6%	88,9%	89,3%	49,9%	52,6%
Latin America	88,0%	88,6%	87,3%	86,5%	87,6%	89,7%	89,8%	88,8%	59,6%	53,7%
Asia-Pacific	85,8%	85,5%	86,5%	86,8%	87,6%	89,8%	90,5%	90,5%	49,2%	33,3%
Africa-Middle East	80,6%	80,2%	80,9%	81,3%	82,0%	82,6%	83,5%	84,3%	64,4%	62,4%
Caribbean-Indian Ocean	83,2%	84,5%	87,4%	87,8%	87,3%	87,3%	87,9%	89,0%	70,4%	71,2%
Total Long-Haul	**85,6%**	**85,7%**	**86,2%**	**86,4%**	**86,5%**	**87,9%**	**88,4%**	**88,7%**	**56,9%**	**54,7%**
Short and Medium-Haul	**74,6%**	**76,8%**	**78,8%**	**80,1%**	**81,0%**	**82,6%**	**83,3%**	**84,7%**	**67,2%**	**69,6%**
Total	**83,2%**	**83,8%**	**84,7%**	**85,1%**	**85,4%**	**86,8%**	**87,4%**	**87,9%**	**58,8%**	**57,4%**

Number of Passengers (in thousands)	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
North America	7 169	7 137	7 182	7 497	7 516	7 990	8 257	8 760	2 176	3 100
Latin America	2 545	2 759	2 885	3 041	3 111	3 170	3 452	3 664	1 151	1 293
Asia-Pacific	5 971	6 095	6 092	6 278	6 033	6 224	6 419	6 659	1 534	945
Africa-Middle East	5 137	5 218	5 612	5 322	5 456	5 681	5 581	5 484	2 097	3 339
Caribbean-Indian Ocean	3 325	3 347	3 394	3 438	3 634	3 708	3 726	3 753	1 705	2 362
Total Long-Haul	**24 147**	**24 556**	**25 165**	**25 576**	**25 750**	**26 773**	**27 435**	**28 320**	**8 663**	**11 039**
Short and Medium-Haul	**51 564**	**52 720**	**52 736**	**53 440**	**54 412**	**57 176**	**58 184**	**59 304**	**20 220**	**24 817**
Total	**75 711**	**77 328**	**77 450**	**79 016**	**80 163**	**83 938**	**85 619**	**87 624**	**28 883**	**35 856**

Appendix 8: IATA 2022 ASK Forecasts, Recovery Years and 2019-2040 ASK CAGRs per Geographical Region

Geographical Region	2022 ASK Growth	Recovery Year	2019-2040 ASK CAGRs
North America	23,6%	2024	2,1%
Latin America	35,8%	2024	2,9%
Asia-Pacific	39,0%	2024	4,5%
Africa-Middle East	14,9%[1]	2026	3,4%[2]
Caribbean-Indian Ocean	35,8%[3]	2024	2,9%[3]
Europe	46,4%	2024	2,1%

Appendix 9: Passenger Network - ASK and Load Factor Forecasts (2022-2027)

Capacity in ASK (in million)	2022F	CAGR to Recovery Year	2023F	2024F	2025F	2026F	2027F
North America	52 691	15,0%	60 591	69 677	71 140	72 634	74 159
Latin America	31 522	11,4%	35 131	39 153	40 288	41 457	42 659
Asia-Pacific	33 691	38,0%	46 480	64 124	67 010	70 025	73 176
Africa-Middle East	32 753	3,1%	33 757	34 791	35 857	36 955	38 209
Caribbean-Indian Ocean	33 654	-4,2%	32 239	30 883	31 779	32 700	33 648
Total Long-Haul	**184 310**		**208 198**	**238 628**	**246 073**	**253 771**	**261 852**
Short and Medium-Haul	**47 814**	10,9%	**53 038**	**58 832**	**60 067**	**61 329**	**62 617**
Total	**232 125**		**261 235**	**297 460**	**306 141**	**315 100**	**324 469**

[1] Weighted average using the revenues from these two regions over the past decade in AF-KLM as a weight reference. The individual rates for Africa and Middle East growth in 2022 are 6.1% and 34.7%, respectively.
[2] Weighted average using the revenues from these two regions over the past decade in AF-KLM as a weight reference. The individual CAGRs (2019-2040) for Africa and Middle East are 3,3% and 3,6%, respectively.
[3] Used rate for Latin America by IATA

Load Factor	**2022F**	**CAGR to Recovery Year**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
North America	57,5%	24,6%	71,7%	89,3%	89,3%	89,3%	89,3%
Latin America	58,0%	23,7%	71,7%	88,8%	88,8%	88,8%	88,8%
Asia-Pacific	36,9%	56,7%	57,7%	90,5%	90,5%	90,5%	90,5%
Africa-Middle East	77,4%	2,2%	79,0%	80,8%	82,5%	84,3%	84,3%
Caribbean-Indian Ocean	77,0%	7,6%	82,8%	89,0%	89,0%	89,0%	89,0%
Total Long-Haul	**60,9%**		**71,5%**	**88,3%**	**88,5%**	**88,8%**	**88,8%**
Short and Medium-Haul	**78,9%**	3,6%	**81,8%**	**84,7%**	**84,7%**	**84,7%**	**84,7%**
Total	**64,6%**		**73,6%**	**87,6%**	**87,8%**	**88,0%**	**88,0%**

Appendix 10: Transavia - ASK and Load Factor Forecasts (2022-2027)

	2022F	**CAGR to Recovery Year[4]**	**2023F**	**2024F**	**2025F**	**2026F**	**2027F**
Capacity (in ASK million)	29 422	5,7%	31 097	32 867	33 557	34 262	34 981
Load Factor	85%	4,3%	88,4%	92,2%	92,2%	92,2%	92,2%

[4] Transavia Recovery Year = Europe Recovery Year = 2024

Appendix 11: External Expenses (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Aircraft fuel	7 278	6 897	6 629	6 183	4 597	4 507	4 958	5 511	2 392	2 748
Chartering Costs	551	455	438	430	424	515	577	525	253	325
Landing fees and en route charges	1 832	1 839	1 840	1 947	1 900	1 905	1 893	1 933	969	1 185
Catering	591	589	591	462	445	784	783	822	294	382
Handling charges and other operating costs	1 368	1 405	1 476	1 536	1 565	1 753	1 673	1 715	833	1 027
Aircraft maintenance costs	1 131	1 303	1 729	2 372	2 469	2 327	2 410	2 628	1 618	1 620
Commercial and distribution costs	866	852	870	896	905	935	1 034	1 029	346	385
Other Costs	1 706	1 744	1 598	1 942	1 958	1 462	1 618	1 730	1 275	1 154
Subtotal	**15 323**	**15 084**	**15 171**	**15 768**	**14 263**	**14 188**	**14 946**	**15 893**	**7 980**	**8 826**
% of Total Operating Expenses	*62%*	*62%*	*63%*	*66%*	*63%*	*59%*	*60%*	*61%*	*51%*	*55%*
YoY Change (%)		*-1,6%*	*0,6%*	*3,9%*	*-9,5%*	*-0,5%*	*5,3%*	*6,3%*	*-49,8%*	*10,6%*

Appendix 12: Aircraft Fuel Expenses Regression Statistics

Regression Statistics	
Multiple R	0,92
R Square	**0,85**
Adjusted R Square	0,80
Standard Error	740
Observations	10

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	21258687	10629343	19,40	**0,0014**
Residual	7	3834847	547835		
Total	9	25093534			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	**-2107,23**	1191,57	-1,77	0,12	-4924,84	710,39
Revenues Coef	**0,19**	0,05	4,03	0,00	0,08	0,30
Crude Price Coef	**50,64**	16,33	3,10	0,02	12,02	89,26

Appendix 13: Salaries and Related Costs (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Wages and salaries	5 514	5 424	5 315	5 295	5 234	5 192	5 328	5 585	4 660	4 410
Pension costs linked to defined contribution plans	610	603	595	563	580	597	670	707	547	634
Net periodic pension cost of defined benefit plans	359	379	388	294	238	226	219	281	307	206
Social contributions	1 207	1 171	1 157	1 080	1 056	1 066	1 097	1 118	846	811
Cost of temporary employees	0	0	192	160	155	192	241	253	83	86
Profit sharing	5	3	0	0	148	324	191	131	-8	-69
Other expenses	-33	-98	-11	72	63	23	13	64	-80	33
Temporary Emergency Bridging Measure for Sustained Employment	0	0	0	0	0	0	0	0	-1 049	-771
Subtotal (in €m)	**7 662**	**7 482**	**7 636**	**7 464**	**7 474**	**7 620**	**7 759**	**8 139**	**5 306**	**5 340**
% of Total Operating Expenses	*31%*	*31%*	*32%*	*31%*	*33%*	*32%*	*31%*	*31%*	*34%*	*33%*
YoY Change (%)		*-2,3%*	*2,1%*	*-2,3%*	*0,1%*	*2,0%*	*1,8%*	*4,9%*	*-34,8%*	*0,6%*

Appendix 14: Total Staff, Wages and Salaries, and Social Contributions (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Ground Staff	69 516	66 512	65 545	56 318	54 969	53 185	53 985	54 342	49 680	45 572
Cabin Crew	25 863	25 548	25 282	24 947	24 757	25 859	26 153	26 684	23 702	20 002
Flight Deck Crew	8 751	8 509	8 450	8 225	8 191	8 268	8 750	9 360	8 750	8 170
Total Staff	**104 130**	**100 569**	**99 277**	**89 490**	**87 917**	**87 312**	**88 888**	**90 386**	**82 132**	**73 744**
YoY Change (%)		*-3,4%*	*-1,3%*	*-9,9%*	*-1,8%*	*-0,7%*	*1,8%*	*1,7%*	*-9,1%*	*-10,2%*
Wages and salaries (in €m)	**5 514**	**5 424**	**5 315**	**5 295**	**5 234**	**5 192**	**5 328**	**5 585**	**4 660**	**4 410**
YoY Change (%)		*-1,6%*	*-2,0%*	*-0,4%*	*-1,2%*	*-0,8%*	*2,6%*	*4,8%*	*-16,6%*	*-5,4%*
Annual Average Remuneration (in €)	**52 953**	**53 933**	**53 537**	**59 169**	**59 533**	**59 465**	**59 941**	**61 791**	**56 738**	**59 801**
YoY Change (%)		*1,9%*	*-0,7%*	*10,5%*	*0,6%*	*-0,1%*	*0,8%*	*3,1%*	*-8,2%*	*5,4%*
Social contributions (in €m)	**1 207**	**1 171**	**1 157**	**1 080**	**1 056**	**1 066**	**1 097**	**1 118**	**846**	**811**
% of Wages and Salaries	*21,9%*	*21,6%*	*21,8%*	*20,4%*	*20,2%*	*20,5%*	*20,6%*	*20,0%*	*18,2%*	*18,4%*

Appendix 15: Temporary Employees and Cost of Temporary Employees (2012-2021)

	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Temporary Employees	**3181**	**2455**	**2427**	**2927**	**3188**	**3042**	**941**	**977**
YoY Change (%)		*-22,8%*	*-1,1%*	*20,6%*	*8,9%*	*-4,6%*	*-69,1%*	*3,8%*
Cost of Temporary Employees	**192**	**160**	**155**	**192**	**241**	**253**	**83**	**86**
YoY Change (%)		*-16,7%*	*-3,1%*	*23,9%*	*25,5%*	*5,0%*	*-67,2%*	*3,6%*
Cost Ratio	0,060	0,065	0,064	0,066	0,076	0,083	0,088	0,088
YoY Change (%)		*8%*	*-2%*	*3%*	*15%*	*10%*	*6%*	*0%*

Appendix 16: Depreciation, Amortization and Provisions (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Flight Equipment	1 238	1 227	1 253	1 246	1 234	1 254	1 194	1 238	1 167	1027
Other PPE	271	259	238	219	210	194	195	199	197	184
Intangible Assets	67	80	98	108	127	140	160	151	187	192
Right-of-use Assets	0	0	0	0	0	1 168	1 321	1 353	1 185	1110
Inventories (Provision)	0	0	0	0	0	9	2	18	27	22
Trade Receivables (Provision)	0	0	0	0	0	3	43	16	118	25
Risks and Contingencies (Provision)	154	159	129	34	94	72	-27	12	-22	-189
Subtotal (in €m)	**1 730**	**1 725**	**1 718**	**1 607**	**1 665**	**2 840**	**2 888**	**2 987**	**2 859**	**2 371**
YoY Change (%)		*-0,3%*	*-0,4%*	*-6,5%*	*3,6%*	*70,6%*	*1,7%*	*3,4%*	*-4,3%*	*-17,1%*

Appendix 17: Gross Tangibles (Flight Equipment + Other PPE) and Intangibles Assets (2016-2021)

	2016	**2017**	**2018**	**2019**	**2020**	**2021**
Owned Aircraft	15 432	16 263	16 185	17 192	17 158	16 784
Assets in Progress	590	988	1 034	1 263	1 506	1 243
Other FE	1 875	2 021	2 199	2 425	2 518	2 549
Gross Flight Equipment	**17 897**	**19 272**	**19 418**	**20 880**	**21 182**	**20 576**
Depreciation Charged / Gross Value	*6,9%*	*6,5%*	*6,1%*	*5,9%*	*5,5%*	*5,0%*
Lands and Buildings	2 591	2 639	2 676	2 708	2 758	2 739
Equipment and Machinery	1 210	1 251	1 308	1 169	1 070	1 059
Assets in Progress	115	156	187	205	191	129
Other	921	943	980	993	1 102	1 076
Gross Other PPE	**4 837**	**4 989**	**5 151**	**5 075**	**5 121**	**5 003**
Depreciation Charged / Gross Value	*4,3%*	*3,9%*	*3,8%*	*3,9%*	*3,8%*	*3,7%*
Trademark and Slots	280	280	280	280	280	280
Customer Relantionship + CO_2 Quotas	1605	1744	1825	1811	1903	2091
Gross Intangibles	**1 885**	**2 024**	**2 105**	**2 091**	**2 183**	**2 371**
Amortization Charged / Gross Value	*6,7%*	*6,9%*	*7,6%*	*7,2%*	*8,6%*	*8,1%*

Appendix 18: Aircraft Fleet (2012-2021)

Fleet Recognition	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Long-Haul Fleet	172	172	170	171	172	173	172	176	172	170
Medium-Haul Fleet	232	222	223	224	230	236	239	247	247	252
Cargo Fleet	21	19	17	13	8	6	6	6	6	6
Regional Fleet	180	198	161	156	142	130	131	125	121	108
Total Fleet	**605**	**611**	**571**	**564**	**552**	**545**	**548**	**554**	**546**	**536**
AF (Including HOP!)	420	405	354	339	322	315	305	302	298	277
KLM (Including KLC & Martinair)	209	206	172	172	167	162	169	172	168	166
Transavia	0	0	45	53	63	68	74	80	80	93
Fully Owned	244	233	202	203	199	201	212	224	214	203
Finance Lease	131	145	125	125	118	107	93	84	75	66
Operational Lease	230	233	244	236	235	237	243	246	257	267
Fully Owned (%)	*40%*	*38%*	*35%*	*36%*	*36%*	*37%*	*39%*	*40%*	*39%*	*38%*
Finance Lease (%)	*22%*	*24%*	*22%*	*22%*	*21%*	*20%*	*17%*	*15%*	*14%*	*12%*
Operational Lease (%)	*38%*	*38%*	*43%*	*42%*	*43%*	*43%*	*44%*	*44%*	*47%*	*50%*

Appendix 19: Taxes other Income Taxes and Other Current Income and Expenses (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Capitalized Production	0	0	-573	-875	-767	-923	-993	-1 122	-610	-728
Joint operation of routes	39	84	88	87	89	108	57	49	7	-8
Operations- related currency hedges	-117	-65	-42	-310	-155	-10	16	-64	-79	-16
Co2 Quotas	0	0	0	0	0	0	19	54	32	36
Other	5	-9	19	-12	-9	-37	-36	-42	10	1
Other Current income and expenses (in €m)	**-73**	**10**	**-508**	**-1 110**	**-842**	**-862**	**-937**	**-1 125**	**-640**	**-715**
Taxes other than income taxes (in €m)	**184**	**186**	**169**	**155**	**164**	**158**	**166**	**154**	**137**	**116**

Appendix 20: Capital Expenditures (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	
Acquisiton of Flight Equipment	1185	906	1054	1347	1 711	2 090	2 325	2 746	1 745	1 856	
Acquisiton of other Tangible Assets	166	140	163	179	204	214	274	293	170	105	
Acquisiton of Intangible Assets	146	166	210	174	210	248	253	328	198	222	
Accounts Payable on Acquisitions	-32	-26	4	-53	-53	10	-8	5	-14	19	
Total CAPEX (in €m)	**1 465**	**1 186**	**1 431**	**1 647**	**2 072**	**2 562**	**2 844**	**3 372**	**2 099**	**2 202**	
YoY Change (%)		*-19,0%*	*20,7%*	*15,1%*	*25,8%*	*23,6%*	*11,0%*	*18,6%*	*-37,8%*	*4,9%*	
% of Revenues	*5,8%*	*4,6%*	*5,7%*	*6,4%*	*8,3%*	*9,9%*	*10,8%*	*12,4%*	*18,9%*	*15,4%*	

Capital Expenditures (%)	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	***Average***
Acquisiton of Flight Equipment	80,9%	76,4%	73,7%	81,8%	82,6%	81,6%	81,8%	81,4%	83,1%	84,3%	*80,7%*
Acquisiton of other Tangible Assets	11,3%	11,8%	11,4%	10,9%	9,8%	8,4%	9,6%	8,7%	8,1%	4,8%	*9,5%*
Acquisiton of Intangible Assets	10,0%	14,0%	14,7%	10,6%	10,1%	9,7%	8,9%	9,7%	9,4%	10,1%	*10,7%*
Accounts Payable on Acquisitions	-2,2%	-2,2%	0,3%	-3,2%	-2,6%	0,4%	-0,3%	0,1%	-0,7%	0,9%	*-0,9%*

Appendix 21: Current Assets, Current Liabilities and Net Working Capital (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Inventories	521	511	538	532	566	557	633	737	543	567
Trade Receivables	1 859	1 775	1 728	1 800	1 893	2 164	2 191	2164	1 248	1 511
Other Current Assets	846	936	964	1 142	1 078	1 243	1 065	1123	1 074	1 509
Other Short-Term Financial Assets	933	1031	787	967	130	421	325	800	607	484
Cash and Cash Equivalents	3 420	3 684	3 159	3 104	3 938	4 673	3 585	3715	6 423	6 658
Current Assets (in €m)	**7 579**	**7 937**	**7 176**	**7 545**	**7 605**	**9 058**	**7 799**	**8 539**	**9 895**	**10 729**
YoY Change (%)		*4,7%*	*-9,6%*	*5,1%*	*0,8%*	*19,1%*	*-13,9%*	*9,5%*	*15,9%*	*8,4%*

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**

Provisions	555	670	731	742	446	255	505	714	1 337	885
Trade Paybales	2 219	2 369	2 444	2 395	2 359	2 368	2 454	2379	1 435	1 850
Deffered Revenues on Ticket Sales	2115	2371	2429	2515	2 639	3 017	3 153	3289	2 394	2 644
Frequent Flyers Programs	770	755	759	760	810	819	844	848	916	888
Other Current Liabilities	2 477	2 387	3 330	3 567	2 912	3 240	3 566	3602	3 538	3 415
Current Portion of Financial Debt	846	1 538	1 231	1 440	1 002	1 378	826	842	1 318	1 215
Lease Debt	588	599	654	577	1 032	993	989	971	839	825
Bank Overdrafts	257	166	249	3	5	6	5	4	1	4
Current Liabilities (in €m)	**9 827**	**10 855**	**11 827**	**11 999**	**11 205**	**12 076**	**12 342**	**12 649**	**11 778**	**11 726**
YoY Change (%)		*10,5%*	*9,0%*	*1,5%*	*-6,6%*	*7,8%*	*2,2%*	*2,5%*	*-6,9%*	*-0,4%*
Net Working Capital	**-4 910**	**-5 330**	**-6 463**	**-6 505**	**-5 629**	**-5 735**	**-6 633**	**-6 808**	**-6 755**	**-6 095**
Changes in Net Working Capital		*-420*	*-1 133*	*-42*	*876*	*-106*	*-898*	*-175*	*53*	*660*
Changes in Net Working Capital (%)		*8,6%*	*21,3%*	*0,6%*	*-13,5%*	*1,9%*	*15,7%*	*2,6%*	*-0,8%*	*-9,8%*
% of Total Revenues	*-19,8%*	*-21,8%*	*-26,7%*	*-27,2%*	*-24,8%*	*-24,0%*	*-26,7%*	*-26,1%*	*-43,2%*	*-38,2%*

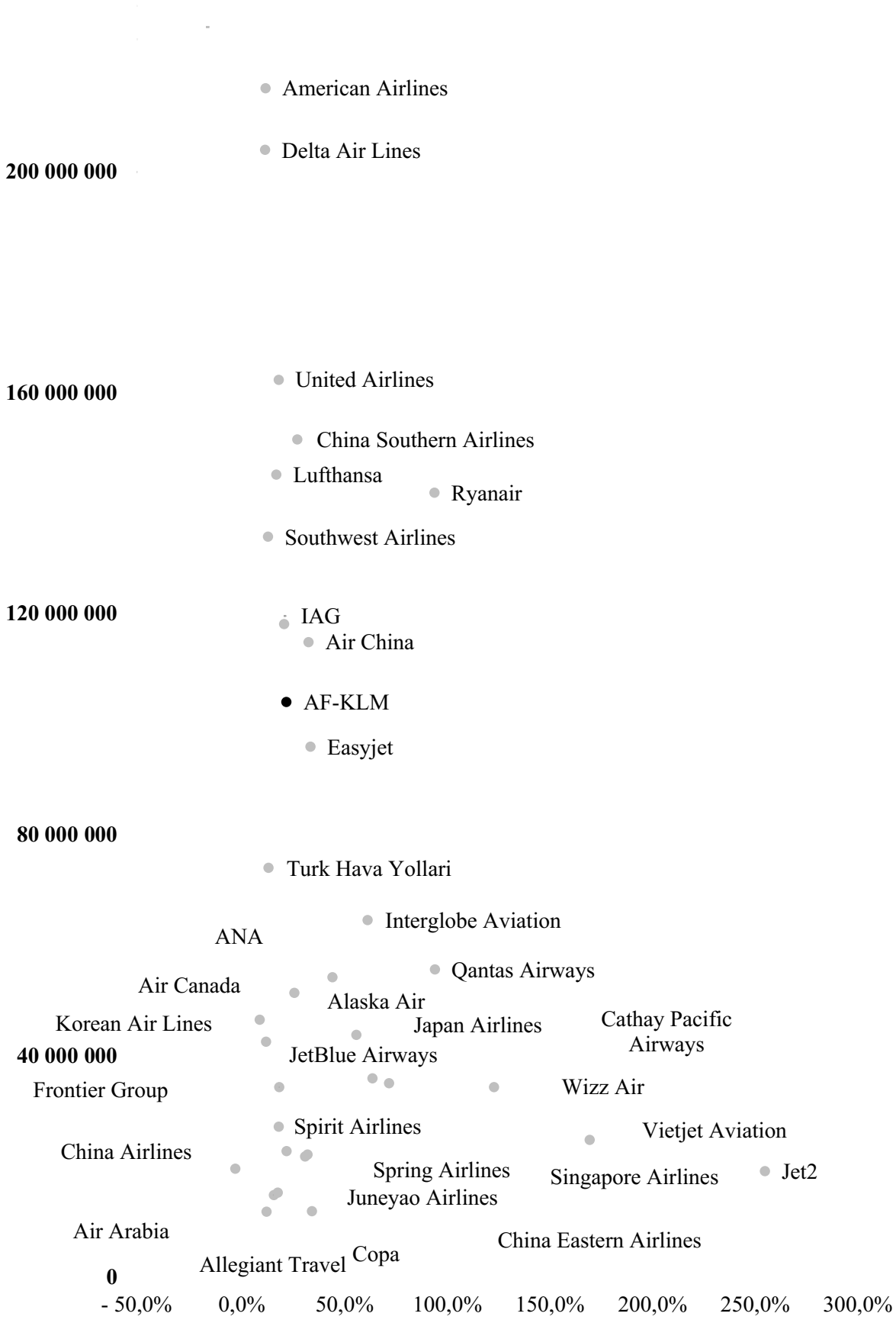
Appendix 22: Non-Cash Current Assets and Non-Interest-Bearing Current Liabilities as % of Revenues (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	*2012-2019*	**CAGR to Recovery**
Inventories	2,0%	2,0%	2,2%	2,1%	2,3%	2,2%	2,4%	2,7%	**4,9%**	**4,0%**	*2,2%*	-17,4%
Trade Receivables	7,3%	7,0%	6,9%	7,0%	7,6%	8,4%	8,4%	8,0%	**11,3%**	**10,6%**	*7,6%*	-10,5%
Other Current Assets	3,3%	3,7%	3,9%	4,4%	4,3%	4,8%	4,1%	4,1%	**9,7%**	**10,5%**	*4,1%*	-27,1%
Provisions	2,2%	2,6%	2,9%	2,9%	1,8%	1,0%	1,9%	2,6%	**12,1%**	**6,2%**	*2,2%*	-28,7%
Trade Paybales	8,7%	9,3%	9,8%	9,3%	9,5%	9,2%	9,4%	8,8%	**12,9%**	**12,9%**	*9,2%*	-10,6%
Deffered Revenues on Ticket Sales	8,3%	9,3%	9,7%	9,8%	10,6%	11,7%	12,0%	12,1%	**21,6%**	**18,5%**	*10,4%*	-17,3%
Frequent Flyers Programs	3,0%	3,0%	3,0%	3,0%	3,3%	3,2%	3,2%	3,1%	**8,3%**	**6,2%**	*3,1%*	-20,7%
Other Current Liabilities	9,7%	9,4%	13,4%	13,9%	11,7%	12,5%	13,6%	13,2%	**31,9%**	**23,9%**	*12,2%*	-20,1%

Appendix 23: EBIT (2012-2021)

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Total Revenues	25 423	25 520	24 913	25 710	24 844	25 863	26 224	27 188	11 088	14 315
Total Operating Expenses	24 826	24 487	24 186	23 884	22 724	23 944	24 822	26 048	15 642	15 941
EBIT	**597**	**1 033**	**727**	**1 826**	**2 120**	**1 919**	**1 402**	**1 140**	**-4 554**	**-1 626**

Appendix 24: Revenue Passengers in 2019 (Y-axis) vs 2022 Expected Revenue Growth (X-axis)



Glossary & Abbreviations

APV - Adjusted Present Value

ASK – Available Seat Kilometers

ATK - Available Tonne Kilometers

CAPEX – Capital Expenditures

CAPM - Capital Asset Pricing Model

CILA - West Indies, Caribbean, Guyana, Indian Ocean, South America

CSR – Corporate Social Responsibility

EASA - European Aviation Safety Agency

EBIT – Earnings Before Interest and Taxes

EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization

ECB - European Central Bank

EV – Enterprise Value

FAA - Federal Aviation Administration

FCFE - Free Cash Flows to Equity

FCFF - Free Cash Flows to Firm

GDP – Gross Domestica Product

GICS - Global Industry Classification Standard

IATA - International Air Transport Association

LCC - Low-Cost Carrier

MEGI - Middle Eastern Gulf India

MRO – Maintenance Repair and Overhaul

NOL – Net Operating Losses

NWC – Net Working Capital

OECD - Organization for Economic Co-operation and Development

RPK – Revenue Passenger Kilometers

RTK – Revenue Tonne Kilometers

TRBC - The Refinitiv Business Classification

WACC - Weighted Average Cost of Capital

WTTC - World Travel & Tourism Council

YTM – Yield-to-Maturity