

A Work Project, presented as part of the requirements for the Award of a Master Degree in Economics / Finance / Management from the NOVA – School of Business and Economics.

TITLE OF WORK Unveiling Ryanair Holding PLC's  
Value: Forecasting and Valuation Analysis

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## Abstract

This Master's Thesis aims to determine an appropriate valuation for Ryanair Holdings PLC, a European short-haul airline operating in a highly cyclical industry vulnerable to economic, energy, and geopolitical fluctuations. Ryanair has managed to navigate through the Covid-19 pandemic, during which air travel ceased, causing airlines to struggle with fixed costs amid revenue loss.

Although European air traffic is rebounding, significant changes have unfolded, mostly pertaining to altering travel trends, consumer behaviors, and flight patterns.

Ryanair is betting big on expansion for the following decade, and has agreed with Boeing a big contract of 300 new Boeing 737 Max-10. This deal not only aims to modernize their fleet but also to widen its reach, particularly targeting the less explored Eastern European market. However, this growth occurs within a severely constrained market capacity, as major airlines have also committed to substantial aircraft orders, straining Boeing and Airbus manufacturers' production capabilities.

Our model and DCF analysis forecast a €21.72 share price for FY25, which implies an annualized shareholder return of 14.05%, leading us to recommend a "buy" strategy.

Keywords Airline, Short-haul, Low-cost, Market Leader

This report is part of the Navigating Uncertainty: Evaluating Ryanair's Fleet Expansion Strategy in Turbulent Times report (annexed), developed by Gustavo Martins and Manuel Peres and should be read as an integral part of it.

# Table of Contents

## Introduction

### Base Scenario Forecasts

- Forecast Reasoning
- ASM & Boeing Delays
- Aircraft effective prices and discount granted by Boeing
- Property, Plant and Equipment & Capex
- Load Factor
- Eastern Europe & Wizz Airways
- Revenue Forecasts
- Fuel & Oil Forecasts
- Derivatives Note
- Other Costs

### Valuation

- Free Cash Flow
- Weighted Average Cost of Capital (WACC)
- Discounted Cash Flow Model (DCF)
- Multiples Analysis
- Sensitivity Analysis

### Share Price Performance

### Final Recommendation

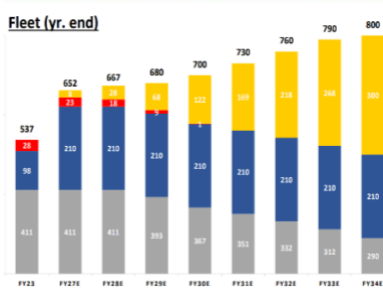
# Introduction

The central objective of the appended report, "Unveiling Ryanair Holdings Plc's Value: Forecasting and Valuation Analysis," is to ascertain the appropriate valuation for Ryanair Holdings Plc. Commencing with the reasoning behind our base scenario forecasts. The report proceeds to conduct a comprehensive analysis of Ryanair and its competitors. The methodology for forecasting the key value drivers and consequent company's financials are then elucidated, culminating in the intrinsic valuation of Ryanair. Drawing insights from company information, analysts' reports, economic news, real estate projections, and macroeconomic environment reports, we project Ryanair Holdings Plc's ability to gain its market standing. The analysis emphasizes the company's technological differentiation from competitors. Consequently, the report issues a Buy rating with a price target of €21.72 for FY 2023, reflecting an anticipated annualized shareholder return exceeding 14.05%.

It's imperative to highlight that this report consists of two distinct parts. The section titled "Unveiling Ryanair Holdings Plc's Value: Forecasting and Valuation Analysis" encompasses the Key value drivers' Forecasts, Intrinsic Valuation, and Investment Thesis & Final Recommendations.

# Base Scenario Forecasts

## Forecast Reasoning



**Exhibit 40:** 2023 Boeing Contract Delivery Schedule  
Source: Company website

In September 2023, Ryanair shareholders approved the 2023 Boeing contract, a purchase agreement signed with Boeing on May 9, 2023. The contract establishes the purchase of up to 300 new Boeing 737-MAX-10 aircraft, (150 firm, plus 150 options). During the deal presentation, Mr. O'Leary, the CEO of Ryanair Group, outlined the company's intention to use approximately half of the new B737-MAX-10 aircraft (150 aircraft) to replace older B737-800s (in line with the delivery schedule presented in exhibit 40). Consequently, the remaining half will create additional capacity for the airline, which will focus on Ryanair's primary growth market in the coming years: Eastern Europe. On June 27<sup>th</sup>, Ms. Alicja Wojcik-Golebiowska, Ryanair's CEE and Baltics country manager expressed in declarations to Reuters the following: "We see that central and eastern Europe was a little bit left behind in last years. So, we want to catch up in this region to catch it up with our most developed markets like Spain or Italy". On October 18<sup>th</sup>, Mr. O'Leary told Reuters that around 180 of the 400 (counting with the 112 remaining Boeing 737-8200 left to be delivered of the 2014 contract) new aircraft the company plans to deploy over the next eight years would operate in central and eastern Europe. The main competitor Ryanair will face there will be Wizz Airlines, which is the dominant air carrier by market share in the region. Therefore, our forecasts heavily rely on the progression on the below value drivers. Considering their critical nature and inherent unpredictability, we'll additionally perform a sensitivity analysis specifically targeting these factors.

**Exhibit 41:** Major assumptions for Base Scenario

### Boeing Delays:

- 17 B737-8200 per year (all delivered by FY27)
- 10 B737-MAX 10 per year (all delivered by FY34)

### Discount Granted:

- 57% for B737 MAX-10

### Load Factor:

- 93 % in FY24 – FY25
- 90 % from FY26 onwards

### Fuel & Oil Costs:

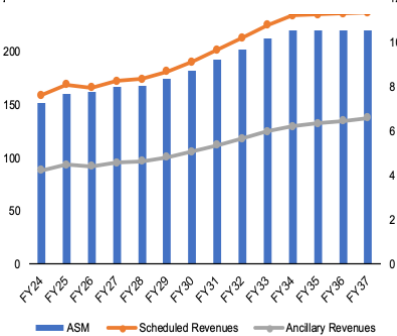
- \$80 a barrel
- \$20 jet fuel crack spread

**Boeing delays:** Despite Ryanair's existing agreements with Boeing for aircraft deliveries, including the 2014 contract for 112 B737-8200s aircraft (initially agreed to be delivered between FY24 and FY25) and subsequent 300 B737-MAX 10s (150 of those are optional) from FY27 onward, there are concerns about Boeing's ability to adhere to the initial timelines. Our projections will consider potential delays from Boeing. **Discount granted:** Based on current market conditions, we will compute an appropriate discount for the B-737 Max-10 contract. **Load Factor:** Our assessment of Ryanair's ability to sustain its dominance and meet demand on already established air routes, along with its potential for expansion into Central and Eastern Europe will directly influence the evolution of this key value driver. **Fuel & Oil costs:** standing as the primary operating costs on Ryanair's, a small thesis on its evolution for the next 10 years will be conducted. Naturally, we have also completed forecasts for all elements required to conduct Ryanair's valuation and will detail our methodologies.

## ASM & Boeing Delays

We have designed our model in a way that is intricately dependent on Ryanair's ASM, directly related to the evolution of the airline's. Our entire revenue streams and cost structure are dependent on the ASM metric. As already explained in the value drivers' section, ASM is dependent on aircraft count, model and seating capacity (please refer to the value drivers section). Other important metrics include the average number of sectors per plane and their average sector length. For all forecasted years, we have assumed the average figures

**Exhibit 42:** Forecasted ASM (bn), Scheduled and Ancillary Revenues (€bn)  
Source: Own Calculations



Note: ASM follows the left axis, both revenues segments follow the right axis

registered on previous fiscal years, given that the fleet composition will continue to be within the B737 family, and the geographical scope of Ryanair will remain in short-haul flights in Europe. As already elaborated in this report, Boeing is facing tremendous supply chain issues, mostly related to its fuselage supplier, amidst record breaking backlog orders coming from commercial airlines and aircraft capacity constraints. Back in October, Michael O’Leary announced that out of the 27 aircraft due to be received by late December, only 10 to 14 would be delivered. We have assumed the worst-case scenario of only 10 deliveries in our base analysis. This means that Boeing is lagging deliveries of the 2014 Boeing Contract by at least 17 aircraft. We believe that this lag of 17 aircraft from the original schedule will persist, with Boeing catching up only by FY27, delaying the final aircraft delivery by one year. We have not projected any measure by Ryanair to add capacity to counter this situation, as we believe Ryanair will not engage in lease contracting (also very constrained and expensive), nor will it engage in any purchase agreement with Airbus (which would go against the single model pillar of Ryanair; plus, Airbus is also facing similar difficulties fulfilling its orders). Additionally, we don’t regard Michael O’Leary’s statements about potentially dropping the contract seriously, considering the potential for substantial legal fees and the negative effect that damaged relations with the manufacturer of almost all aircraft Ryanair operates would bring. Instead, we interpret those comments as added pressure for Boeing to fulfill the delivery schedules. Regarding the deliveries of the B737 MAX-10, we have also input a delay of 10 aircraft per year, as it is our conviction that Boeing will be able to partially solve short-term supply chain problems, but record orders for the following decade will most likely cause delays. The pending certification of the MAX-10 by the Federal Aviation Administration (FAA) could also delay the delivery process.

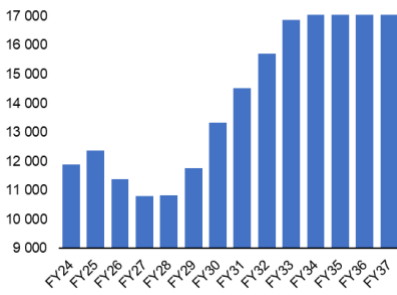
## Aircraft Effective Prices & Discount Granted by Boeing

Ryanair announced that the B737 MAX-10 deal in listing prices was valued at \$40bn, considering all 300 aircraft involved. In other words, \$133M listing prices per aircraft, or €122.35M (considering our assumed exchange rate of 1.09 EUR/USD). However, a May 2023 Irish Times article has provided us with a very interesting interval of potential discounts secured by Ryanair. According to the article, analysts from AllianceBernstein estimated that the effective costs per aircraft were \$38M, while Morgan Stanley estimated \$57M per plane, which represents a discount of 71% and 57% on the list price, respectively. Another relevant information came from Simple Flying, one of the largest aviation website news. Back in 2019, this website published that Airbus was forced to disclose the actual sales prices of its aircraft from 2018, revealing discounts of around 50% of list prices. Back to the Ryanair deal, we believe that the 71% discount was fairly overstated. Plus, conditions at the time of the deal (May 2023), already with strong traffic figures, evident capacity constraints, and historically high order backlogs for both Boeing and Airbus, have given Boeing a greater bargaining power than usual market conditions (which favors the likelihood of a lower discounts). Considering all these factors, our base scenario has assumed a conservative 57% discount for the Boeing deal involving the B737 Max-10 (€52.6M per aircraft).

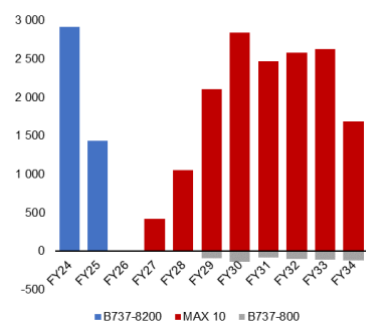
Hence, we were able to estimate the actual price for the remaining undelivered B737-8200 based on Ryanair’s contractual obligations for FY24 and FY25 (presented in their annual report), resulting in an estimated €38.85 million per aircraft.

## Property, Plant and Equipment & Capex

**Exhibit 43: Forecast PPE (€M)**  
Source: Own Calculations



**Exhibit 44: Aircraft CAPEX expenditures PPE (€M)**  
Source: Own Calculations



Note: Negative values for the B737-800 reflect scheduled disposals

Our calculations for PPE and CAPEX figures are based on the planned delivery schedule for new aircraft (although we are assuming significant delays from Boeing, as we have already explained). This comes from our understanding that aircraft additions to PPE are predominantly governed by contractual payment agreements, which are based on initially established delivery dates. Normally, these contracts also include pre-delivery deposits which must be capitalized (that was the case for previous contracts between Ryanair and Boeing, as expressed in the annual report). These pre-delivery deposits occur independently from potential delivery delays Boeing might incur. Plus, delays in deliveries are usually very unpredictable to identify up until the agreed delivery date. A payment structure constantly dependent on delays would be unsustainable, as it provided no predictability for both parties. In simplistic terms, suppose Ryanair and Boeing initially established that there would be 1 aircraft delivery for FY25. No matter if that same aircraft is delayed or not, our model will include it in the CAPEX and PPE of FY25. Ryanair own aircraft CAPEX estimates revealed in November 2023 (aircraft CAPEX equal to €2.8bn for FY24, €1.3bn for FY25 and approximately €3bn in FY30) further strengthens our confidence in our model, as these figures are extremely similar to our own estimates. From FY29 onwards, we accounted for the sales of older B737-800 by its scrap value (15% of acquisition value).

## Load Factor

Our base scenario anticipates severe capacity constraints in the European aviation industry from FY24 to FY25. Throughout this report, we've highlighted several reasons supporting this projection. In 2023, flight activity remained robust but slightly below pre-pandemic levels, primarily due to reduced airline capacity despite strong traveler demand and high load factors across airlines. Specifically talking about Ryanair, the pandemic-induced shifts in air traffic seem to have had mixed benefits for the airline. Routes involving Germany and France experienced significant traffic reduction in the YTD 2023 compared to the equivalent period in 2019, yet these countries do not feature prominently in Ryanair's top routes. Conversely, there was a substantial decline in UK-related flights (which Ryanair heavily depends on), particularly evident in a 20% reduction in domestic UK flights and in a -8% reduction in the Ireland UK pair. Notably, routes to typical summer destinations have seen increased traffic. It should be remembered that this data does not encompass the substantial Christmas and New Year's traffic yet, which could improve the performance of some of the most affected routes.

We recognize that our analysis in this department is limited. We were unable to find quantified data in terms of weekly recurrence and load factor figures for flights operated by Ryanair nor for the whole industry as a whole. However, we know that the reported load factor by Ryanair for YTD FY24 was an impressive 93%. We do not expect any major downturn for the next years in Europe that could change this figure dramatically. Even if economic growth slows down for FY25, we believe that the cost advantages Ryanair has over other airlines will enable the low-cost carrier to practice lower fares, as consumers are expected to become more price sensitive (thus maintaining similar demand levels).

However, from FY26 onwards, we have assumed a more conservative load factor of 90%.

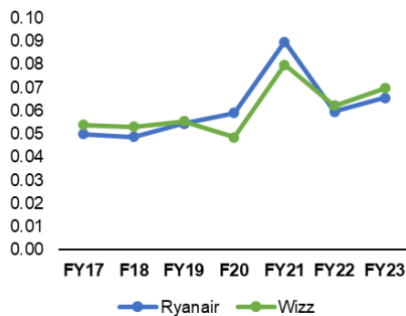
By then, Ryanair will have an increased fleet size, which means that it will be more dependent on the absorption capacity of the European market. It is important to consider that Europe is a well-served mature market, which means that finding untapped niches will become increasingly more challenging. The option of expanding beyond Europe (for Ryanair the only realistic options would be the Middle East or asserting a higher presence in North Africa and Turkey) poses numerous challenges associated with regulatory, political factors, and operational limitations. Plus, a more conservative stance is suitable due to higher uncertainty regarding economic conditions in Europe during that period. The 90% load factor also contemplates a successful expansion of operations in Eastern Europe, explained below.

## Eastern Europe & Wizz Airways

Ryanair has thrived in the past due to its top-bottom approach in terms of new routes to operate. Ryanair first creates the routes, offering low fares, promotes the new destinations and then hopes passenger demand follows. The only region in Europe where that strategy could still present some degree of success is Eastern Europe. Data from Eurocontrol reveals no Eastern European country features in the top operated routes in Europe. Plus, Eastern Europe is still lagging behind Western/Northern Europe in terms of GDP per capita. Over the long run, we believe this is the region with most potential for growth, as it departs from a lower capital accumulation basis. The general rise in incomes, closely tied to economic growth, has been a key driver of the increase in demand for air travel in recent years. According to data, there is evidence indicating higher income elasticities for less developed economies, while developed economies exhibit lower responsiveness as markets mature. We believe that an emerging middle class in those countries (especially Poland and Hungary). We acknowledge that the whole region has been negatively affected by the ongoing Ukrainian War (reflected also in air traffic figures), but we are confident that in the long run, these effects will be subdued. Also, we believe that Ryanair will benefit from the prevailing trend of consumers becoming more cost-conscious in relation to their travel expenses (more traffic influxes coming from Western Europe potentially).

Wizz airways currently holds the highest market share in Eastern Europe, holding the top position in countries like Hungary, Romania, and Albania. Ryanair currently dominates the Poland market. We anticipate challenging fiscal years ahead for Wizz Airways. The company will face significant capacity constraints due to the P&W engine issue and will be impacted by escalating aircraft leasing expenses (please refer to exhibit 45). The upcoming winner between Ryanair and Wizz Air in terms of dominance for market share in the Eastern European competition will be decided by which airline is able to control costs better. While both companies exhibit close operating costs on an RPM basis, Ryanair seems set for a more favorable evolution (Ryanair has better airport handling costs and is more experienced dealing with fuel costs hedging than Wizz). Wizz's heavily leveraged balance sheet compared to Ryanair's might also prove critical in a higher interest rate environment. We believe that the market share advantage Wizz currently has will be severely affected, if not lost, for the short-medium term. Capturing it back from Ryanair will be difficult, unless the Irish carrier suffers unexpected disruptions, which we are not contemplating in our model.

**Exhibit 45:** Focus on Ryanair's and Wizz operating costs in RPM basis (€)  
Source: Annual Reports from analyzed companies



**Exhibit 46:** Wizz Airways Market Share by Region  
Source: Wizz Airways FY23 Annual Report

| Country / Region       | Market Share | Low-Cost Market Position |
|------------------------|--------------|--------------------------|
| Albania                | 54.10%       | 1                        |
| Bosnia and Herzegovina | 42.70%       | 1                        |
| Bulgaria               | 33.20%       | 1                        |
| Hungary                | 31.70%       | 1                        |
| Lithuania              | 18.30%       | 2                        |
| Moldova                | 19.60%       | 2                        |
| Poland                 | 23.60%       | 2                        |
| Romania                | 49.20%       | 1                        |
| CEE                    | 24.00%       | 1                        |

## Revenue Forecasts

Our forecasted yield per scheduled passenger mile assumes a CAGR of 0.44% for all forecasted years, based on the CAGR observed between FY17 and FY23. We believe that Ryanair's ability to raise prices significantly in the future will be limited, especially considering the expansion to Eastern Europe and increased competition with Wizz Airways. It is also relevant to note that our yield projection is based on FY23 figures, which already surpass pre-pandemic figures, which advises caution on the growth rate to apply. We have also forecasted ancillary revenues to be tied to scheduled revenues, considering the 55.48% ratio of ancillary to scheduled revenues in FY23. Our models predicts that Ryanair will be able to raise its ancillary revenue per passenger from €23 in FY23 to around €24 in FY32. This assumption takes into consideration the ancillary revenue trend on the relevance of this revenue stream to airlines (especially low-cost carrier), but also reflects our view that Ryanair will not be able to diversify its offering too much apart from seat selection and baggage fees.

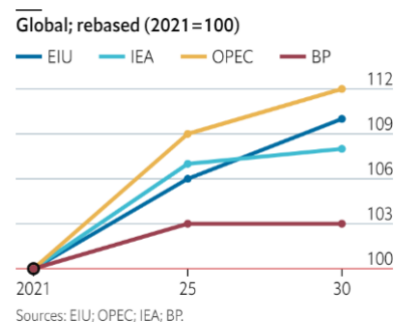
## Fuel & Oil Forecast

As any other goods and services, oil prices obey the principles of supply and demand, which are particularly heightened for oil (a crucial commodity for the world economy, with limited supply and low-price elasticity of demand). On the demand side, reports from BP, OPEC, IEA (International Energy Agency) and the Economist Intelligence Agency converge in their assessment that global oil demand will increase in the next 10 years. However, they differ on the pace this growth will take (ranging between +3% and 12%). Our projection leans towards the more bullish end of this spectrum, as we expect global oil demand to surge by approximately 10% in the coming decade. We believe that the relationship between economic growth and oil demand will remain high, especially for emerging economies in the next 10 years. We acknowledge the push by several countries towards energy transition, but we believe this will happen gradually and more concentrated in developed economies (where economic growth is expected to be lower).

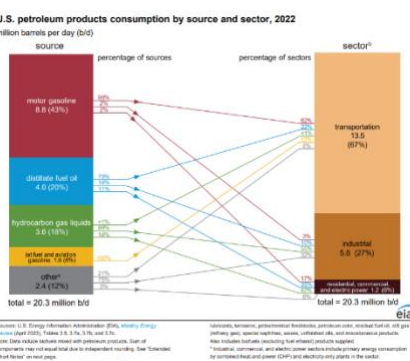
According to the U.S energy information administration (EIA), 66.6% of total U.S. petroleum consumption is attributed to the transportation sector, mostly through finished motor gasoline and diesel fuel. The expansion of passenger electric vehicles (EVs) in big economies such as China, the U.S. and Europe has been noteworthy, but lagging in developing countries. However, even for developed economies, there are key challenges: the case of Norway, which had an 88% share of EV car sales in 2022 but has only registered a 10% reduction in fuel demand since 2017. This underscores the difficulty in electrifying heavy-duty vehicles such as trucks and buses, as well as the persistence of already existing internal combustion engine (ICE) automobiles on the roads. Additionally, envisioning alternatives to oil for jet fuel and petrochemical feedstocks remains a considerable challenge in the foreseeable future.

From the supply side, we also foresee inflationary trends impacting oil prices. We expect US oil supplies to remain tight for the next 10 years, as government policies to fight climate change are discouraging oil companies from investing in additional capacity. Instead, companies are boosting dividends or buying back shares to reward their investors. Consequently, we anticipate an expansion in the global oil supply share attributed to OPEC countries. These countries, heavily reliant on oil exports, are more likely to resort to competitive pricing tactics, which involve artificially suppressing supply to bolster prices. Moreover, given their historical political instability, these nations add an element of

**Exhibit 47:** Oil demand growth scenarios  
Source: Economist Intelligence Unit



**Exhibit 48:** US petroleum products consumption by source and sector, 2022  
Source: EIA



uncertainty to the oil supply landscape.

Therefore, we have incorporated an 80\$ per barrel for crude oil into our projections for all forecasted years. Regarding the fuel crack spread, we believe that the recent spikes have been mostly motivated for geopolitical reasons (war in Ukraine and the Israel/Palestinian conflict). Our projections assumed a historically high jet fuel crack spread of \$25 for FY24, followed by a closer to the average \$20 for the remaining forecasted years.

## Derivatives Note

As previously mentioned, Ryanair actively employs various financial derivatives to mitigate risks arising from its operations. The primary focus is on hedging against fuel costs, which are not only highly dependent on a volatile commodity, oil, but also represent a significant portion of the airline's operational expenses. Given that oil futures and options are traded in USD, Ryanair also enters into contracts to hedge against currency exposure. Currency hedging is also crucial due to the generation of revenues in different currencies, and the fact that aircraft purchases from Boeing are conducted in USD.

In valuation terms, Ryanair will always be subjected to long-term market conditions, as hedges will only offset price fluctuations in the short term. This is the reason why we have assumed a stable fair value of the derivatives contracts, resulting in no recorded loss or gain in the income statement. However, we have chosen to forecast these derivatives on the balance sheet, reflecting a more precise financial depiction of the airline. We have recorded them based on operating costs, assuming the average registered between FY17 and FY23.

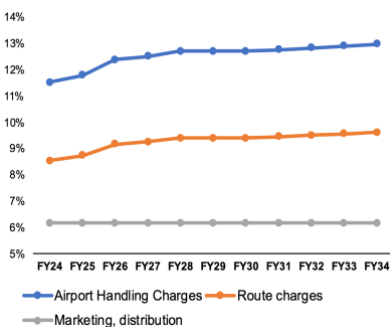
## Other Costs

For the flight and cabin crew payroll forecast, we have assumed Ryanair's average number of employees per mile between FY17 and FY23, excluding FY21 and FY22 figures (distorted by the pandemic). We have also considered that payroll per employee will increase at the same rate of inflation. Airlines in the past have frequently been forced to negotiate higher wages and benefits with these workers, driven by robust collective bargaining efforts that have often culminated in strikes. Sales, operations, management and administration payroll and marketing, distribution costs were forecasted based on the average percentage of revenues they represented between FY17 and FY23, again excluding FY21 and FY22 figures. For maintenance, materials, and repairs, we have assumed that costs per sector flown will increase at the same rate as inflation. The same reasoning applies for airport handling charges and route charges. One might argue that we are not accounting for Ryanair's historical advantage of negotiating good deals with airports. However, it is important to consider that we are basing our estimates from a lower starting point compared to Ryanair's peers. Plus, an increase in the charges per sector is expected given the forecasted expanded operations, which will most likely translate into a higher presence in major airports where costs are higher.

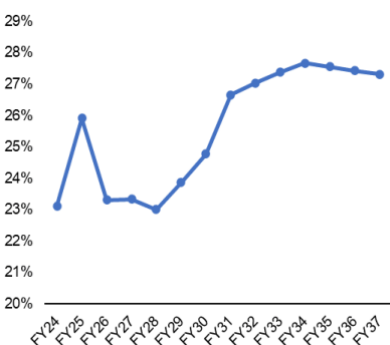
## Valuation

Based on the above-described model, which incorporated Ryanair's historical performance

**Exhibit 49:** Forecasted Costs in %  
Forecasted of Total Revenue  
Source: Own calculations



**Exhibit 50:** Forecasted Ryanair Core EBITDA Margin  
Source: Own calculations



and projected future performance, we have calculated the companies fair value through a DCF valuation. We project the stock price to be worth €21.73 in March 2025, alongside €899.1M to be paid in dividends. The stock price as of December 20<sup>th</sup>, 2023, was €19.03, which yields a potential upside of 18.3% (14.1% annualized), therefore considering the stock to be a buy.

## Free Cash Flow

The first step into building a DCF analysis is to forecast the Free Cash Flow of the company in the following years until a steady point is reached. In Ryanair's case the steady point was forecasted to be reached in March 2037. Free cash flow is a financial metric that represents the cash generated by a company's (core and non-core) operations that is available for distribution to its investors, both equity and debt holders, or for reinvestment in the business. It, ultimately, measures if the company is able to finance its operations (Opex and Capex) alongside its debt obligations. We have calculated free cash flows using formula 1. Our results show showed an increasingly positive of Ryanair's free cash flow, registering a CAGR of 4.4% from March 2023 (€1,572M) to March 2037 (€3,057M).

### Formula 1: Core FCF

Core FCF = Core Unlevered Result (after adjusted taxes) – Non-cash income + Non-cash costs (among which D&A) – Capex – Change in NWC (in cash) – Change in Other Core Assets (in cash) + Change in Other Core Liabilities (in cash)

Ryanair's free cash flow for this period is highly dependent on the big aircraft contracts established with Boeing (exhibit 51). The decrease in annual FCF after FY26 is highly correlated with the beginning of the 300 Boeing Max 10 deliveries, which will end in FY34. From this year onward, our estimates suggest that Ryanair will converge to a steady state, holding a strong market position alongside a large renewed and efficient fleet. Ryanair does not give any guidance related to further fleet enlargements from FY34 forward. Our model assumes that the carrier will keep the same number of aircrafts after the last delivery date, and that it will incur in maintenance Capex only, keeping its PPE constant. This assumption yields a growth of 0.9%, which represents a shift from the unstable cash flows registered in most of our previous forecasted years.

As a result of the large forecasted positive cash flows and inexistence of debt after FY26, the company announced it was going to repay the €400M invested by the shareholders in the middle of the pandemic (to be paid in two tranches of €200M in FY24 and FY25) and established a 25% profit payout ratio starting in FY25. We estimate the company to increase its payout ratio due to the forecasted robust cash generation, alongside growth investment opportunities shrinkage.

## Weighted Average Cost of Capital (WACC)

The following step in constructing the DCF model is computing the discount rate for the company's future free cash flow, more specifically the Weighted Average Cost of Capital. The WACC represents debt and equity investors' expected return and is derived through formula 2. The CAPM was applied to compute the cost of equity. We used the current (as of December 15, 2015) 10-year German bund yield as the risk-free rate because of its high liquidity and Germany's top credit rating in the Eurozone (AAA, according to Fitch, Moody's, S&P, and DBRS). For the Market Risk Premium (MRP), we relied on Damodaran's 2023 GDP-weighted model for Western Europe, which resulted in a 7.4% Market Risk Premium (MRP). To derive the levered Equity Beta we regressed the market portfolio (Stoxx 600

Exhibit 51: Total Free Cash Flow evolution from March 2024 to March 2037



### Formula 2: Wacc formula

$WACC = Rd \cdot (D/EV) \cdot (1-T) + Re \cdot (E/EV)$

where:

Rd = Cost of Debt

D = Net Debt

EV = Total Enterprise Value

T = Tax rate

Re = Cost of Equity

E = Equity Value

### Formula 3: Unlevered Beta formula

$Bu = Be \cdot (E/EV) + Bd \cdot (D/EV) \cdot (D/E) \cdot (Bu - Bd)$

where:

Be = Equity Relevered Beta

Bu = Equity Unlevered Beta

D = Net Debt

Bd = Debt Beta

E = Equity Value

EV = Enterprise Value

**Exhibit 53: WACC Parameters**

| WACC Parameters              |        |
|------------------------------|--------|
| Cost of equity               | 9,8%   |
| risk-free rate (10Y Germany) | 2,09%  |
| Relevered Beta               | 1,04   |
| MRP (GDP Weighted)           | 7,4%   |
| Debt YTM                     | 4,34%  |
| Prob of default              | 0,50%  |
| Loss given default           | 60,00% |
| Cost of Debt                 | 4,04%  |
| Target D/EV                  | 0%     |
| New Tax rate                 | 15%    |

| WACC |      |
|------|------|
|      | 9,8% |

**Formula 4: Levered Equity beta formula**

$$B_e = B_u + (D/E) \cdot (B_u - B_d)$$
 where:  
 $B_e$  = Equity Relevered Beta  
 $B_u$  = Equity Unlevered Beta  
 $D$  = Net Debt  
 $B_d$  = Debt Beta  
 $E$  = Equity Value

**Formula 5: Cost of debt formula**

$$\text{Cost of Debt} = \text{Debt YTM} - \text{Probability of Default} \cdot (1 - \text{Recovery Rate})$$

Europe Index) against Ryanair and its peers weekly stock returns over the past 3 years, adjusted for stocks dividends, shares buybacks and stock splits. The Stoxx 600 was considered to be the market portfolio as it best reflects the returns of the average potential Ryanair’s investor. We opted for weekly share price observations due to their high liquidity and selected the past 3 years to avoid noise in estimations caused by significantly different debt ratios before Covid-19. From this linear regression, we obtained Ryanair’s and its peers’ levered equity betas. Afterwards, we unlevered each Beta, following formula 3) with the correspondent company’s average net debt for the past 3 years and debt beta of 0.1 based on the company’s BBB+ credit rating and according to *S.Schaefer* and *I. Strebulaev* study. Next, we averaged them arriving to the industry’s unlevered beta of 1.04. Considering that the Ryanair’s unlevered beta 95% confidence interval ranged between 0.96 and 1.53, we found the 1.04 to be statistically significant at 95% confidence level thus representing the true Ryanair’s unlevered beta for the cost of equity. Finally, we relevered this Beta to the forecasted Ryanair’s target negative Net Debt/Enterprise Value ratio of -20%, using the formula 4 with a debt Beta of 0.1, resulting a final Equity Beta of 1.04 and a cost of equity of 9.8%. Given the negative target net debt, we computed the Weighted Average Cost of Capital (WACC) using a 0% debt-to-equity ratio, in line with the Damodaran Valuation report. In this scenario, the cost of equity aligns with the weighted discount rate applied to the Discounted Cash Flow (DCF) Model. The calculation of the cost of debt (Formula 5) was excluded from this report due to its inapplicability and, therefore, its lack of relevance in providing a comprehensive explanation. The resulting WACC stands at 9.8%, considering all the parameters aforementioned and represented in exhibit 53.

## Discounted Cash Flow Model (DCF)

The method used for Ryanair’s stock price valuation was the discounted cash flow method (DCF). This methodology seeks the intrinsic value of a company based on the present value of its future cash flows, discounting them at a constant rate (WACC), assuming a constant target capital structure. We anticipate Ryanair to act accordingly, by reaching the target Net debt to Enterprise Value ratio of -20%. The CEO's conservative ideology, steering away from dependence on market debt prices and opting to own the entire aircraft fleet, paid for with the company's cash flow, explains this ratio. Given our projections of significantly positive annual cash flows, we find this strategy feasible. It provides the company enough cash to implement its dividend payment policy and also establishes a financial buffer to for another stressful and financially harsh periods like the one during Covid-19. The future free cash flows were discounted at the WACC of 9.8%, resulting in a sum of discounted cash flows of €14.493B.

The final component of the valuation model involves computing the Terminal Value given by the discounted perpetuity of the last year’s cash flow (Formula 6). Despite the growth rate not being constant, throughout the period, due to the intense capital expenditures, we assumed it to mirror, in perpetuity, the rates observed in the last two years (0.9%). Considering the company to have reached a steady state by March 2037, growing at a rate lower than the long-term ECB inflation rate target of 2%, aligns with our assumptions of sustaining low fare practices to maintain its market share as of FY2037, alongside no anticipated further growth opportunities from that point onwards.

**Exhibit 54: DCF parameters**

|                           |        |
|---------------------------|--------|
| Sum of discounted CF      | 14 493 |
| Discounted terminal Value | 11 236 |
| Total enterprise Value    | 25 729 |
| Net Debt March 2025       | 984    |
| Implied Equity Value      | 24 746 |
| Nr of Shares              | 1 139  |
| Implied Share Price       | 21,73  |
| Growth                    | 0,9%   |
| WACC                      | 9,8%   |

|                           |            |
|---------------------------|------------|
| Price as of 20th December | 19,03      |
| Total Return              | 3,49       |
| Upside                    | 18,3%      |
| Valuation Date            | 31/03/2025 |
| 20th December             | 20/12/2023 |
| Days to valuation Date    | 467        |
| Annualized return         | 14,09%     |

**Formula 6: Terminal Value formula**

$$\text{Terminal Value} = \text{CF}_{2034} \cdot (1+g) / (\text{Wacc}-g)$$
 where:  
 $g$  = growth rate  
 $\text{CF}_{2034}$  = 2034 Cash Flows

After deriving the discounted Terminal Value of €11.236B, we summed it to the discounted cash flows from 2026 to 2034, reaching a total Enterprise Value of €25.729B from which we subtracted the March 2025 net debt (€984B), arriving to the Equity value of €24.746B. Assuming no shares buyback programs and with an outstanding amount of shares of 1138.93M, the implied share price stands at 21.73€.

## Multiples Analysis

As a supplementary tool to our Discounted Cash Flow (DCF) Model, we conducted a comprehensive multiple analysis to assess Ryanair's performance within its industry and gauge the market's perception of its results. The industry scope was defined by the five major companies operating short-haul travels in Europe: Lufthansa, Wizz Air, EasyJet, Ryanair, and International Airlines Group. Additionally, Southwest Airlines, a reference short-haul company in the USA, was included for comparative purposes. Their market capitalizations range from €4.4B (EasyJet) to €21.4B (Ryanair). Given the varying fiscal years of the companies, we used current (as of 15th December 2023) and normalized data to conduct this analysis (exhibit 55).

Our analysis involved three different multiples, forward (next year) price to earnings ratio, price to book value ratio and enterprise value to EBITDA. The forward /P/E ratio assesses a company's overvaluation relative to its earnings, emphasizing growth expectations and adopting a forward-looking approach. The P/B ratio evaluates the premium the market is willing to pay for a company's equity book value, while EV/EBITDA measures a company's ability to generate cash from its operations, factoring in its capital structure. All indicators point to the market elevated expectations for Ryanair's future results.

Ryanair's forward P/E ratio stands out with the highest value in the region (10.86) as reflection for high market expectations for Ryanair's growth. However, it's crucial to acknowledge inherent challenges associated with forward P/E, including potential miscalculations and analyst bias. The second multiple, P/B ratio lacks direct forward-looking, as it is based on values from the balance sheet, reflecting historical data. Ryanair, having the third highest P/B (2.52), reflects a strong brand perception and a relatively high expectancy of growth.

Lastly, the EV/EBITDA multiple is useful for cross-border comparisons (as it adjusts for the distortion caused by the individual countries' taxation policy), and for capital-intensive businesses with high depreciation figures. The large multiple can be justified due to Ryanair having the current highest profit margin (exhibit 46), alongside one of the highest depreciations as a percentage of revenue (exhibit 56).

Based on the price's ranges derived from the average and median of the 6 companies' multiples analyzed, we constructed a football field chart (exhibit 57) with the price intervals given by the multiples, alongside the DCF price (straight black line) which lack consistency in signaling a clear buy or sell stance, underscoring the complexity of the valuation.

We attribute the disparities in EV/EBITDA to the fact that most companies exhibit lower profit margins and reduced annual depreciation. This dynamic diminishes the relative price of Ryanair, given its above-average multiple. The difference in price given by the P/B ratio due

**Exhibit 56:** Industry's depreciation as a percentage of revenue

|           | FY 2017 | FY2018 | FY 2019 | FY 2023 |
|-----------|---------|--------|---------|---------|
| Ryanair   | 7,48%   | 7,85%  | 8,32%   | 8,57%   |
| Easyjet   | 3,36%   | 3,59%  | 3,37%   | 9,34%   |
| Wizz      | 3,68%   | 4,67%  | 4,00%   | 15,43%  |
| Lufthansa | 2,81%   | 2,98%  | 3,32%   | 3,13%   |
| IAG       | 5,70%   | 5,17%  | 5,14%   | 8,97%   |
| Luv       | 6,02%   | 5,76%  | 5,47%   | 5,67%   |

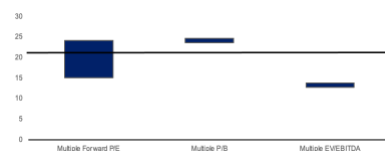
**Exhibit 55:** Airline Short Haul Industry Multiples' Overview

| Company   | Market cap (M€) | Price/Book | EV/EBITDA | Next year PE |
|-----------|-----------------|------------|-----------|--------------|
| Ryanair   | 21452           | 2,52       | 6,06      | 10,86        |
| Easyjet   | 4425            | 1,16       | 3,29      | 8,84         |
| Wizz air  | 2387            | 9,2        | 7,83      | 8,38         |
| Lufthansa | 9728            | 0,92       | 3,21      | 5,22         |
| IAG       | 9124            | 4,31       | 3,27      | 4,67         |
| LUV       | 16077           | 1,56       | 6,55      | 17,76        |

**Exhibit 56:** Industry's depreciation as a percentage of revenue

|           | FY 2017 | FY2018 | FY 2019 | FY 2023 |
|-----------|---------|--------|---------|---------|
| Ryanair   | 7,48%   | 7,85%  | 8,32%   | 8,57%   |
| Easyjet   | 3,36%   | 3,59%  | 3,37%   | 9,34%   |
| Wizz      | 3,68%   | 4,67%  | 4,00%   | 15,43%  |
| Lufthansa | 2,81%   | 2,98%  | 3,32%   | 3,13%   |
| IAG       | 5,70%   | 5,17%  | 5,14%   | 8,97%   |
| Luv       | 6,02%   | 5,76%  | 5,47%   | 5,67%   |

**Exhibit 57:** Football Field Chart



**Exhibit 58:** Load Factor vs Ancillary Revenue per passenger sensitivity analysis parameters

| Ancillary Revenue Per passenger |        |
|---------------------------------|--------|
| Ryanair Minimum                 | €14,83 |
| Historical Average              | €22,05 |
| Ryanair's forecasted value      | €23,22 |
| 2023 Average                    | €29,83 |
| Wizz 2023 Value                 | €36,63 |

| Load Factor                       |     |
|-----------------------------------|-----|
| Ryanair Minimum                   | 71% |
| All Peers Historical Average      | 82% |
| Ryanair's forecasted value        | 90% |
| Peers 2023 Average ex Covid Years | 93% |
| Ryanair's Maximum Value           | 96% |

**Exhibit 59:** Sensitivity analysis on load factor (horizontal axis) vs ancillary revenue per passenger (vertical axis)

|       | 71%     | 82%     | 90%     | 93%     | 96%     |
|-------|---------|---------|---------|---------|---------|
| 14,83 | € -2,97 | € 10,96 | € 20,58 | € 24,34 | € 28,09 |
| 22,05 | € -2,02 | € 11,92 | € 21,57 | € 25,32 | € 29,08 |
| 23,22 | € -1,87 | € 12,08 | € 21,73 | € 25,48 | € 29,24 |
| 29,83 | € -0,99 | € 13,02 | € 22,63 | € 26,39 | € 30,15 |
| 36,63 | € -0,08 | € 13,96 | € 23,57 | € 27,32 | € 31,08 |

**Exhibit 60:** Sensitivity Analysis on Unlevered Beta

| Unlevered Beta | Share Price |
|----------------|-------------|
| 0,96           | 23,56 €     |
| 1,04           | 21,73 €     |
| 1,24           | 18,03 €     |
| 1,53           | 14,47 €     |

| Discount | Price |
|----------|-------|
| 0%       | 8,76  |
| 40%      | 17,76 |
| 45%      | 18,89 |
| 50%      | 20,02 |
| 55%      | 21,73 |
| 60%      | 22,43 |
| 71%      | 24,99 |

**Exhibit 62:** Sensitivity Analysis on Delays in 2028 (horizontal axis) and option exercise (vertical axis)

|     | 0       | 4       | 10      | 15      | 20      |
|-----|---------|---------|---------|---------|---------|
| Yes | 21,96 € | 21,88 € | 21,73 € | 21,63 € | 21,47 € |
| No  | 15,95 € | 15,91 € | 15,81 € | 15,76 € | 15,65 € |

**Exhibit 64:** Sensitivity Analysis on jet fuel crack spread after FY2023 (vertical axis) and Crude oil (horizontal axis) after FY 2023

|       | 5 €     | 10 €    | 20 €    | 25 €     | 30 €     | 40 €     |
|-------|---------|---------|---------|----------|----------|----------|
| 40 €  | 41,24 € | 39,46 € | 35,91 € | 34,14 €  | 29,75 €  | 28,82 €  |
| 60 €  | 34,14 € | 32,36 € | 28,82 € | 27,04 €  | 22,66 €  | 21,73 €  |
| 80 €  | 27,04 € | 25,27 € | 21,73 € | 19,96 €  | 15,52 €  | 14,60 €  |
| 90 €  | 23,50 € | 21,73 € | 18,19 € | 16,41 €  | 12,03 €  | 11,11 €  |
| 140 € | 5,93 €  | 4,24 €  | 1,03 €  | - 0,11 € | - 6,45 € | - 7,16 € |

to the market perceptions that other peers present greater growth opportunities. It is crucial to note that, we do not interpret these disparities as indicative of a mispricing in the DCF valuation but rather as a reflection of how distorted the European airline industry is at the moment.

## Sensitivity Analysis

While we maintain the assertion that our fundamental value drivers and assumptions are logically grounded, it is relevant to acknowledge their susceptibility to a certain level of unpredictability and interpretation. Consequently, we conducted a sensitivity analysis to identify stress points, manipulating inputs and assessing their impact on the desired output—the share price. The key value drivers subjected to scrutiny were the load factor, airplane purchase discount, fuel costs, ancillary revenues per passenger, unlevered beta, 150 Boeing 737 MAX 10 option exercises, and potential delays in contracted airplane deliveries.

The first analysis was between load factor and ancillary revenues per passenger (exhibit 58). Based on the results, it is safe to say that Ryanair is well positioned in adopting a good strategy by maintaining a higher load factor than the one of its peers. However, Ryanair must be wary of the potential downside as a decline to the historical average of peers could precipitate a noteworthy impact on its share price (reducing to €12.14, ceteris paribus). The second factor, the airplane purchase discount, while not transformative, remains pertinent, potentially accounting for a €1 decrease in the forecasted share price.

The second analysis scrutinized the effect the Unlevered Beta would have on the share price, with the parameters within a range spanning Ryanair's 95% Confidence interval (0.96 and 1.53), the actual value employed (1.04) (exhibit 60). It was useful to confirm that constraining the unlevered beta to the common 95% confidence intervals range, the share price would have a limited variation, (8.4% on the upside and 17.0% on the downside). The third analysis focused on potential delays in airplane deliveries in FY25 and FY28, assessing variations between 0 and 20 for FY24 (base scenario: 17) and 0 and 25 for FY28 (base scenario: 10). Notably, extreme cases are projected to have a modest impact on the March 2025 share price (-1.6% to 1.9%, ceteris paribus). Additionally, an evaluation of the impact of the option exercise and associated aircraft delays in FY28 (exhibit 62) aligns with our base case scenario, affirming the company's advantage in exercising the option.

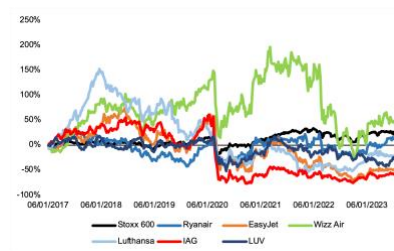
The fourth analysis regards the relationship between the crude oil price and jet fuel crack premium assessing historical ranges from minimum to maximum values (exhibit 63). It is important to note that, although crude oil Brent seems to have a higher impact on the price, it is due to higher intervals. On the other hand the jet fuel crack spread, due its lower price range, lacks graphical impact.

The final analysis (exhibit 64) hinges on the applicable amount of discount to Ryanair's Boeing 737 MAX 10 purchase, ranging from no discount to 71%, the maximum level considered by analysts at AllianceBernstein, as reported by Irish Times (exhibit 63). While our model proves sensitive to the applicable discount, narrowing the range to common values between the Irish Times and Simple Flying articles suggests a plausible discount ranging from 50% to 55%, allowing for a 3.2% deviation from a prior 185.2% range (between

upper and lower bounds).

## Share Price Performance

Exhibit 65: Cumulative Returns since 2017



| €                   | Stoxx 600 | Ryanair | Easyjet | Wizz   | Lufthansa | IAG    | LUV    |
|---------------------|-----------|---------|---------|--------|-----------|--------|--------|
| Price at 06/01/2017 | 365.5     | 14.8    | 11.1    | 21.5   | 11.8      | 4.4    | 44.6   |
| Price 14/02/2020    | 430.5     | 15.6    | 17.5    | 53.6   | 15.2      | 6.9    | 52.5   |
| Return              | 17.8%     | 5.6%    | 58.5%   | 149.0% | 29.1%     | 56.9%  | 17.8%  |
| Price at 20/03/2020 | 293.0     | 8.8     | 6.6     | 25.6   | 9.2       | 1.4    | 27.9   |
| Return              | -31.9%    | -43.5%  | -62.5%  | -52.2% | -39.8%    | -79.6% | -46.9% |
| Price at 15/12/2023 | 476.6     | 18.8    | 5.8     | 23.1   | 8.1       | 1.9    | 27.0   |
| Return              | 62.6%     | 113.8%  | -11.1%  | -9.8%  | -11.2%    | 32.4%  | -3.2%  |
| Return since 2017   | 30.4%     | 27.5%   | -47.2%  | 7.3%   | -30.9%    | -57.6% | -39.5% |

The comparative analysis of Ryanair's stock performance encompassed an evaluation against both industry peers and the market benchmark represented by the Stoxx 600 Europe, from January 6, 2017, to December 15, 2023. Notably, the airline sector displayed clear ups and downs, with most companies enjoying positive returns until March 2020. Take Wizz Air, for example, which hit its highest point on February 14, 2020, with an impressive cumulative return of 149% compared to the market's 17.8%. However, the Covid-19 pandemic took its toll thereafter. Following the disruptions caused by the pandemic, an interesting pattern emerged in the relationship between market dynamics and industry trends. While the market index showed resilience in bouncing back from the lockdown, the airline sector faced a slower recovery. Many companies were trading below their March 20, 2020, share prices. Noteworthy exceptions were Ryanair and IAG, posting returns of 27.5% and 7.3%, respectively, in contrast to the market's worth mentioning that Wizz Air grappled with challenges linked to its non-fuel hedging policy amid increasing tensions between Russia and Ukraine. This led to a decline in its share price, hitting a five-year low. Ryanair's performance stands out as a unique observation, being the only airline closely mirroring the industry index return over the past six years (as one would expect from its Beta close to 1). Ultimately, Ryanair's strategic assertiveness, coupled with an approach to avoiding excessive debt, positioned it as one of only two companies exhibiting positive returns during this period, with the other being Wizz Air, albeit trending in an opposing trajectory and facing prevailing headwinds.

## Final Recommendation

We issue a Long recommendation on Ryanair Holdings PLC . Our price target for the valuation date of March 31st, 2025 is 21.73€, which implies a total annualized shareholder return of 14.09%, when compared to the stock price of €19.03 as of 20<sup>th</sup> December, 2023. This recommendation is based on multiple factors discussed throughout the report, although it is relevant to highlight some of them, namely the strong growth prospects stemming from the company's possible expansion to Eastern Europe, a robust expected load factor, limited adverse impact from Boeing deliveries' delay, and the application of conservative discount considerations for the most recent Boeing contract.

The Eastern Europe move is deemed opportune, given its lack of saturated routes, coupled with a comparatively lower GDP per capita which suggests a higher growth potential. Lastly, the market leader in Eastern Europe, Wizz Air, faces capacity constraints attributable to the Pratt & Whitney engine issue, further underscoring the potential for Ryanair's expansion.

The load factor is expected to remain similar to its historical average of 93% until the end of fiscal year 2025. Beyond this period we anticipate an industry-wide relief from the current harsh supply constraints resulting in a general decline in load factor, albeit Ryanair has a very strong and competitive cost structure, which may, ultimately, support the company on maintaining an elevated load factor through lower fares, until the routes cease to be

economically viable to its competitors.

Regarding the Boeing relationship, we believe that Ryanair's stock price will not be highly affected by the delayed deliveries, as proven in our sensitivity analysis. We also consider that the input discount rate on the B737 MAX-10 contract in our model was conservative, leaving considerable upside potential. Ultimately, we believe the company will maintain its efficient cost structure, its capital structure approach of a debtless balance sheet, its aggressive position and preference for organic growth.