



Department
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Course of Managerial Decision Making

Arguments for choosing cross-border M&A as a growth strategy in the European airline industry exemplified by the Air France and KLM holding and the EasyJet/Wizz Air case study

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Table of contents

<i>Introduction</i>	3
<i>Chapter 1 - Literature review</i>	6
1.1. <i>International merger and acquisition as a growth strategy</i>	6
1.1.1. <i>Main features of cross-border mergers and acquisitions</i>	10
1.2. <i>International expansion through M&A in the airline industry</i>	14
1.3. <i>Advantages, challenges, and success factors of growth through M&A in the European scenario</i>	22
1.4. <i>Summary and conclusions</i>	27
<i>Chapter 2 – Case studies</i>	30
2.1 <i>European Airline Industry – overview and outlook</i>	30
2.2 <i>Air France-KLM merger case study</i>	37
2.3. <i>Wizz Air – company overview</i>	45
2.4. <i>EasyJet – company overview</i>	51
2.5. <i>Wizz Air and EasyJet – financial comparison</i>	57
2.6. <i>Network complementarity between EasyJet and Wizz Air</i>	61
2.7. <i>Similarities and differences between the Air France-KLM merger and the proposed EasyJet-Wizz Air merger</i>	66
<i>Chapter 3 - Analysis and discussion</i>	70
3.1. <i>Discussion</i>	70
3.2. <i>Limitations</i>	74
3.3. <i>Future research</i>	75
<i>Chapter 4 – Conclusions</i>	78
<i>References</i>	79
<i>Thesis Summary</i>	86

Introduction

The passenger air transport industry is among the most dynamic and global industries per definition: its high degree of internationalization is the reason behind the continuous evolution as well as its exposure to exogenous shocks such as political instability, economic and financial downturns, regional conflicts and pandemic outbreaks.

Indeed, in the last few decades this industry faced intermitting periods of turmoil, if not disruption: the September 11 terror attacks, the prolonged conflict in the Gulf, Iraq and Afghanistan, as well as the Great Financial Crisis in 2007 and the ongoing COVID-19 pandemic.

The air transportation industry is without any doubt fairly cyclical, and this is even more clear when it comes to general aviation, (that is, all civil aircraft operations excepting commercial air transport such as cargo flights) and for this reason the entire M&A activity in the industry is strongly correlated with macroeconomic conditions and outlooks, industry shifts as well as regulation changes.

In fact, the very first wave of mergers and acquisitions in the civil aviation industry took place following the U.S. Deregulation Act in 1978 that allowed companies to set their own fares and routes and paved the way for making international mergers and acquisitions a viable growth strategy as it shifted the authority over M&As from the political to the market sphere.

In a politically fragmented scenario such as the European one, this process took place several years later and more slowly: the Single European Sky puts together small, sovereign member States that are part of a common political and economic union that has still limited political power if compared to a federal republic such as the United States; as a result, each country had its own State-owned or controlled national carrier that could not be partially or totally acquired by any sort of foreign

investor and could not service any national market without restrictions as it happens nowadays.

The current scenario is now much more different: not only M&A operations are allowed within the national borders of the countries, (indeed, this is a very common practice in the US aviation industry, where mergers and acquisitions occur relatively often) but also cross-border operations are allowed and used as a mean of growth or survival.

In fact, the last two decades have been characterized by a process of consolidation in the European market where cross-border mergers mostly occur: the most important wave of M&As began in the early years of the 2000s, kicked off by the Air France-KLM merger that reshaped the European industry.

The most notable player for cross-border M&A has been Lufthansa: the German leading carrier took over Austrian Airlines, Swiss Air Lines, Brussels Airlines; in the first weeks of 2022, the company officially targeted Italy's state owned ITA Airways, competing against United States' mega-carrier Delta that aims to complete an unprecedented transatlantic acquisition deal.

The COVID-19 pandemic halted every possible M&A talk or approach, stopping the process of cross-border consolidation of the industry; however, there is a widespread tendency across different markets to merge and concentrate after global *black swans* that generate financial distress, reduced passenger traffic, higher operational costs.

For this reason, M&As in the airline industry are relevant in light of the COVID-19 pandemic that affected the whole leisure industry since the first weeks of 2020; the event pattern that became reality in 2001 and 2007-08 seems to be repeating during this different, unprecedented situation of concern, where full-service carriers and low cost carriers, regional and global players looked for government aid or filed bankruptcy in order to attempt financial restructuring or to mitigate the harmful effect of the increased systematic operational risk.

Cross-border mergers and acquisitions as a research topic have been widely analyzed by scholars and practitioners, but there are still some grey areas that have not been explored yet by any of the existing studies and researches within the field of airline corporate strategy: for instance, the current state of the knowledge with respect to a merger's effect on prices, customer service quality, cost efficiency is quite satisfactory; however, there are some missing pieces in the scientific research on the relation between M&As and market entry or international expansion, that is one of the drivers of horizontal M&As in the airline industry as it is in almost every industry.

The object of this paper is international mergers and acquisitions as a growth strategy; the subject is M&A as a growth strategy in the European airline industry; the goal of this Thesis is to highlight the features and the success factors of international airline mergers and acquisitions as an external growth strategy, as well as the opportunities that a cross-border merger as an international expansion strategy offers in the European scenario.

The first chapter will mostly focus on the theoretical aspects of M&A and the previous research: nevertheless, the specific academic research on the subject of this research paper is still scarce and it will be probably developed in the upcoming years, because the global aviation industry still struggles to recover the pre-pandemic traffic levels and another cross-border merger and acquisition wave could be triggered in the near future.

The second chapter will instead focus on two different case studies, namely the Air France-KLM merger and the EasyJet-Wizz Air failed merger deal.

The two case studies will be compared in the final part of the chapter.

In the third chapter findings and limitations of this research will be assessed, and future research prospects will be outlined.

In the fourth chapter some brief conclusions on the research will be drawn.

Chapter 1 – Literature review

1.1. International merger and acquisition as a growth strategy

While growth used to seem a goal for firms several decades ago, it now represents more than a necessity for every kind of firm and organization, regardless of its size, type of industry, or competitors.

With the term “growth” it is possible to refer to both quantitative and qualitative development in businesses. Quantitative growth can be seen as an increase in total output, sales revenue, investments that lead to a product range extension, as well as resource acquisition (number of employees, new asset acquisition etc.). On the other side, “qualitative growth is about developing the quality of business elements.” It follows that it is not easy to describe qualitative growth with quantitative terms. (Ilhan and Durmaz, 2015).

Broadly speaking, every possible growth strategy that company can choose can be classified into two macro-categories: organic and inorganic growth strategies.

Organic strategies are the first type of growth strategy that is going to be briefly analyzed in this chapter, since this thesis will almost entirely focus on inorganic growth.

Organic growth is the natural alternative to growing by acquisition (or growing by a hybrid strategy that combines organic and acquisitive growth), and its definition is straightforward: organic growth is nothing but the “expansion of a firm’s operations based solely or at least primarily on its internally generated resources.” (Guth, 2016).

Thus, opposed to mergers, acquisitions, joint ventures, and all other sorts of inorganic growth strategies, growing organically implies relying on the company’s capacity of entering new markets or new geographical segments, as well as better perform in those where the firm already competes with new assets, new technologies that lead to incremental or radical innovation.

There are no pure examples of this strategy, as every firm of a considerable size is involved any sort in inorganic growth-related operation during its existence: however, a good example can be represented by Emirates.

The Emirati flag carrier became one of the leaders in the Middle East by pursuing a market development strategy that implies the offering of its already existing product (in this case, passenger air transportation) to new customer segments or new geographical segments, in the case of Emirates. (Lohmann & Spasojevic, 2018) However, the corporate strategic choice behind its growth and success did not involve any acquisition operation, rather preferring the opening of new international routes as well as strengthening its main hub in Dubai for pursuing its hub-and-spoke development model.

High-tech companies are the very opposite example of what Emirates still represents: especially since the widespread adoption of smartphones and their relative technologies, tech industry's biggest players (Apple, Google/Alphabet, Facebook, to name a few) systematically pursue an external growth strategy, implying that acquisitions and takeovers are ordinary administration rather than stand-alone, exceptional events.

The inorganic growth strategy has not only the effect of helping the acquirer entering a certain market and/or acquiring certain knowledge and capabilities, but also of strongly influence the performance and the choices of the acquirer company's main competitor. (Yang et al., 2018).

This thesis will mostly focus on analyzing inorganic growth strategies, and more specifically merger of equals and partial or full takeovers and acquisitions: thus, the review of these phenomena will now go into more detail.

Merger and acquisition (M&A) are certainly the fastest way to grow for a company, in opposition to organic growth and its definitions can be countless: according to Reed et al. (2007), a merger takes place when one or more firms are joined by another one that ceases to exist, while an acquisition represents the transfer of ownership stakes from a company to another.

For Scott (2012), a merger is a consolidation of two or more companies that can be both similar and different in terms of size and type of operation into one and only company.

Grant (2016) listed three groups of motives that lead a company to pursue an inorganic growth strategy, thus merging or acquiring another firm.

Managerial reasons are primarily led by psychological incentives: CEO and top management in many industries seemed to be attracted by M&A operations, because they lead to economic incentives (bonuses) and positive psychological sensations, that grow accordingly to the firm's size. In some situations, the CEOs' or top management's pursuit of celebrity can be one of the drivers of a large-scale operation; imitation is another reason to merge in many industries where M&As are cyclical and follow recurrent waves.

There can also be financial reasons behind a merger or an acquisition: some of them can be the reduction of the tax expenses (or acquisition of tax benefits), the change in capital structure, the exploitation of stock market imperfection and inefficiencies. Strategic mergers represent the third and last category and deserve a more detailed analysis: in fact, in the past decades merger and acquisitions mostly focused on undervalued assets or companies, that showed hidden opportunities to be further developed and exploited for profit; later, M&A grew to become a necessity for business consolidation and even gaining access to markets and products elsewhere. (Downey, 2008) (Candra et al., 2021)

Within the strategic mergers, it is possible to identify horizontal, vertical, conglomerate mergers.

Horizontal mergers can increase overall profitability by the union of two companies that are in the same market to exploit synergies, economies of scale and to increase the total market share of the company: an up-to-date example can be the merger of Fiat-Chrysler Automobiles and PSA Group into Stellantis.

Vertical mergers are mergers or acquisitions of either suppliers or customers.

Within the scope of the corporate restructuring process initiated through a vertical merger or acquisition, the process of integration can be either backward or forward-oriented. (Candra et al., 2021)

For example, if a firm aims to control the distribution channels of a certain product, and its core business is supplying raw materials or assembling them to create the final product, then that same company is carrying out a forward integration merger. On the opposite, if the firm’s core business is sales and marketing of the final product, the company aiming to take over the resources in the upstream process, (e.g., production inputs) then the company carries out a backward-oriented merger. The last type of strategic merger is the conglomerate M&A, where the two (or more) involved companies are essentially unrelated to each other’s sector: a good example can be eBay’s takeover of PayPal in 2002.

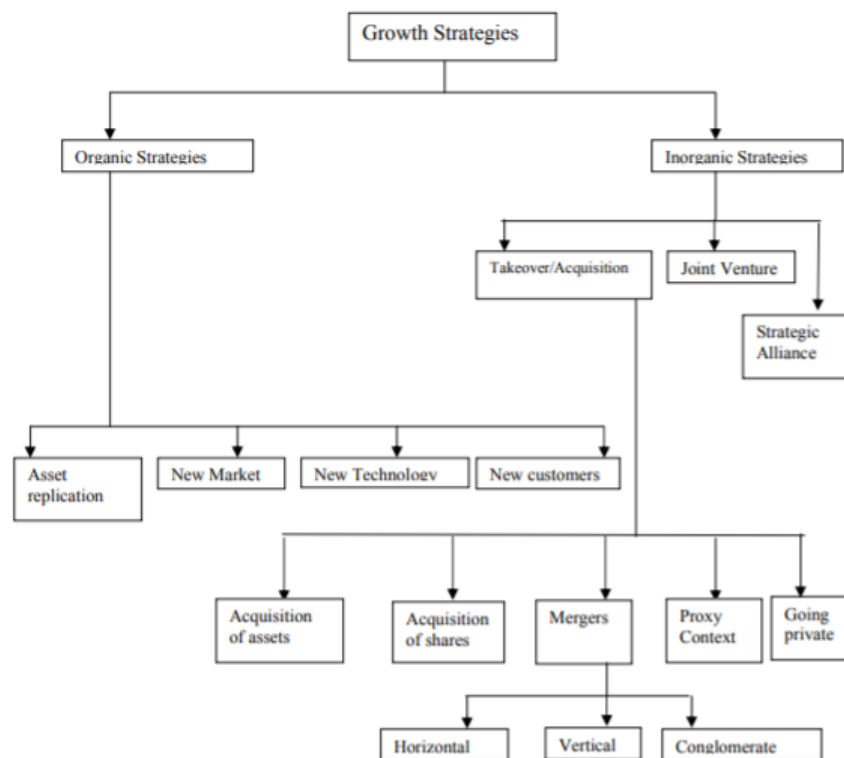


Table 1: Growth strategies – Classification. From: Lohmann, G., & Spasojevic, B. (2018). Airline business strategy

This research will essentially investigate the strategic-related mergers, more specifically horizontal and geographical extension mergers.

An appropriate explanation for the formation of joint venture and for the choice of merging two or more companies can be found by analyzing cost and profit-related choices.

In relation to costs, as a general principle in transaction cost economics it is essential to mention Williamson (1985) that underlines that every firm decides the best way to transact with other entities in accordance with the principle of minimizing transaction costs and production costs.

An additional explanation for the use of inorganic growth strategies when competing in a market, related to the creation of incremental profit, lies in the strategic behavior theory.

More specifically, strategic behavior supposes that firms deal with the goal of maximizing own profits through improving a firm's competitive position against competitor firms, as noted by Kawagoe (2008).

1.1.1 Main features of cross-border mergers and acquisitions

Cross-border mergers and acquisitions have risen in the late 1990s and constantly grew year after year, reaching almost 14.000 M&A operations in 2019 (Institute for Mergers, Acquisitions and Alliances, 2019).

Clearly, the dynamics of cross-border M&As are common to those that characterize M&As carried out within the same country.

That being said, their international nature, poses unique limits and challenges, because of the heterogeneous economic, institutional, cultural contexts in which the two economic entities use to operate. (Shimizu et al., 2004)

Differences among the two countries' culture, business practices, and regulatory constraints or possible restrictions before or after the merger might obstruct companies from achieving their strategic goals in full.

In international markets, uncertainty and information asymmetry make it difficult for companies to change and learn from both the local market and the target business. (Zaheer, 1995).

When evaluating a cross-border M&A as a growth strategy, firms take into consideration several conditions and influential factors at country-, industry-, and firm-level.

Looking at national and industry conditions, factors such as capital, labor as well as other external variables such as the legal, political, and cultural environment, are important as previously said.

Differently, at the firm level, organizations pursuing a growth strategy that involves the choice of growing internationally should identify and evaluate potential acquirees in foreign countries. (Shimizu et al., 2004)

The above-mentioned authors outlined three possible goals of a cross-border M&A:

- foreign market entry/diversification
- value-creating strategy (assuming market inefficiencies)
- undertake a dynamic learning process

The first option is the only one within the scope of this thesis and will therefore be analyzed in this subchapter.

There is a broad scientific and academic literature concerning M&As as an entry mode in a foreign market, also with comparison to foreign direct investment (FDI) (Raff et al., 2009, Boateng et al., 2017, Kim, 2009)

When entering a new market, a firm can decide whether to choose foreign direct investment, equity-based solutions (e.g., joint ventures, owning participation stakes in a company) or even non equity-based solutions (e.g., alliances).

By taking over an already existing foreign company it is possible to acquire the related tangible and, more importantly, intangible resources such as its whole set of knowledge, technology, and human resources, as well as the possibility to access local segments or markets.

A less noticed advantage given by a cross-border M&A if compared to an international alliance among two or more entities is given by the higher degree of control provided by an international merger (even though it is lower than that offered by a foreign direct investment).

Apart from the required degree of control over the operations, there are some conditions that can nudge towards the choice of a cross-border merger instead of a form of alliance or a greenfield investment when entering a new market.

These conditions are:

- 1) firm-level factors like multinational expertise, product differentiation, internal isomorphism, and internationalization strategies already in place;
- 2) industry-level factors like technological and innovation intensity, advertising intensity, extensive use of sales force, and ultimately;
- 3) country-level factors such as steady market growth in the home country, as well the specific culture of the acquiring firm's home country in terms of risk aversion and risk propension. (Shimizu et al., 2004)

For what concerns the above-mentioned country-level factors, Erel et al. (2012) underline that a major determinant of cross-border mergers and acquisition is geography: more specifically, other things being equal, the shorter the distance between the host country and the foreign country selected, the more likely mergers and acquisitions are to be carried out the two countries.

Moreover, this inorganic growth strategy is more likely to be selected if the firms involved belong to countries that usually trade with one another thanks to geographical proximity or similar cultural backgrounds.

These circumstances pose the conditions for achieving higher synergies in the merger.

Very similar conclusions have been reached by Ghemawat (2001), who developed the CAGE Distance Framework, aimed at helping firms to better evaluate the cultural, administrative, economic, geographic discrepancies between the host

country and the country where the firm aims to expand its operations to, so that companies can better develop and implement their cross-border strategies.

Researcher stress that most of the challenges that arise from conducting cross-border mergers and acquisitions are strictly related with the geographical distance between the countries involved in the operation.

However, the extant research focuses less on the previously mentioned administrative (or institutional) distance, that poses risks but also hides different benefits (Chari and Chang, 2009; Malhotra and Gaur, 2014): in fact, institutions set rules within which multinational companies (or more broadly speaking, organizations) must operate and as they extend their operations through a cross-border acquisition or fusion, they almost often face an institutional environment that largely differs from that of their home markets. (Ghemawat, 2001)

Acquiring companies have the possibility to use their know-how and capabilities in a different scenarios or buy those knowledge and capabilities generated in the market they want to operate in (it can be seen as a make-or-buy decision).

As an example, countries with less developed economies and legal frameworks are a favorable environment for American or European pharmaceutical companies where to operate certain aspects and steps of drug development, (e.g., clinical trials, pre-clinical animal testing).

However, multinational companies that undertake a cross-border merging process abroad in distant locations (from the economic and institutional perspective) are subject to adverse selection and moral hazard risks when performing the acquisitions, as well as the liability of foreignness.

Allowing local partners to hold higher ownership makes both contextualization and collaboration easier for what concerns the operations; also, sharing ownership improves the institutional arbitrage potential which has proven to be necessary to benefit from the foreign environment in which the company is.

On the opposite, owning large part of the ownership in a foreign context may lead to a loss of organizational identity for the target firm employees.

So, operating in distant and different environments has risks that can be hedged or overcome by sharing ownership in case of cross-border mergers or acquisitions if the institutional environment proves to be heterogeneous and distant. (Malhotra and Gaur, 2014).

1.2. *International expansion through M&A in the airline industry*

The airline sector is not different from any other industry, and it is indeed characterized by mergers, partial or full acquisitions, joint ventures and alliances (the latter are a peculiar inorganic strategy of this industry, even though they cannot be attributed to the broad category of M&As).

However, the academic literature on airline mergers and acquisitions, given the ever-changing transnational framework of airline ownership clauses, has yet to be fully shaped and developed. Existing literature mainly focuses and extensively takes into analysis the existing forms of airline alliances, as well as and the competitive advantage that can be achieved through them without merging two airlines or acquiring one. (Wolf et al., 2013)

With respect to international airline M&As, the driving motives behind choosing this growth strategy are several and heterogeneous, but they can be grouped in three categories (Evrpidou, 2012) listed below:

- cost efficiencies: the decision of merging two airline companies may be taken in a quest for cost savings. They can be represented by cost efficiencies (e.g., duplicative cost in operations and maintenance are eliminated or reduced), network synergies that lead to an elimination of no longer efficient routes (or hubs, if there is a hub-and-spoke system in place). Moreover, companies can overcome rising fuel costs by merging, that allows to reduce this cost entry by cutting redundant capacity. Fuel savings achieved by consolidating two networks is considerable and outweighs the diminished value of passenger service due to the merger. (Ryerson, 2014)

- economies of scale: commonly, economies of scale are accomplished by this spreading fixed costs over a larger volume of goods or services produced (e.g., by sharing service such as accounting, management, R&D, that were already in place before the merger). In the airline industry, such results are instead achieved when the two entities have similar fleets and workforce. In this sense, a valid example is the Air France-KLM operation, one of the most important cross-border mergers: after integrating their networks, both Air France and KLM served their long-haul routes with the Boeing B777-200 and the Airbus A330-200.
- increase in market power: the resulting increase in profitability is due to a growth of merged entity's market share. Even though horizontal mergers usually lead to a reduction of the systematic risk, deals can be halted or scaled back by competition authorities if they prove the new company gains excess market power that can negatively affect competition in the market: this circumstance is common in the airline industry, and it will be widely investigated in this thesis.

M&As in the airline industry progressively became a consistent phenomenon following the deregulation process started in 1978 with the Airline Deregulation Act, wanted by President Jimmy Carter with the aim of removing the rigid federal control over ticket fares and market entry as to achieve higher competition and effectiveness.

Cross-border mergers were still strictly prohibited, but this legislative act triggered a long process of deregulation that spawned an equivalent path to liberalization in the European Union as well, even though the timing and the progressive concessions differed among the two markets.

Looking overseas, the deregulation process in Europe got into its early stages in 1986, with the introduction of three deregulation stages (better known as “packages”).

In 1992, multilateral agreements took replaced the previous bilateral agreement with the third package of regulation that eventually lifted all residual commercial restrictions and limits for European airlines operating within the European Union, thus laying the foundation for the European single aviation market. (Iatrou and Oretti, 2016)

Currently, the European Union's initiative is the world's first fully deregulated region or single market, (named ECAA, European Common Aviation Area): liberalization ensures unrestricted market access to any route within the European Union for companies belonging to EU Member States; capacity controls and price controls are removed as well, except for those imposed by the EU Commission in order to limit anti-competitive effects. (Decision 2006/682/EC on the establishment of a European Common Aviation Area)

Among the new market conditions that the deregulation generated both in the US and across the European airline markets, there's the possibility for passenger airline companies to implement much faster growth strategies than just growing organically by merging each other or acquiring other company.

If this was somehow possible within the border of a country, (if allowed by its national aviation regulation) mergers and acquisitions across borders became then common. (Németh and Niemeier, 2012).

However, merging two different airline companies is not an easy deal and it is the last possible degree of integration in terms of complexity.

There are different degrees of integration among airlines that progressively blur the boundaries that divide separated companies, and they can essentially be summarized as the following ones:

- Interline agreements (it is a form of reciprocal acceptance of flight tickets and other sort of documentation; this agreement gives a certain airline a right to issue tickets for the flights of another company. Interline agreements make the journey much easier for passengers who need to travel on more than one airline to reach their destination.)

- code-sharing agreements (a business contract where two or more carriers share the same flight. Passengers are allowed to purchase a ticket from a certain airline company, even though the flight is actually operated by a cooperating airline under its own number, also known as IATA code.
- airline alliance
- bilateral joint venture
- multilateral joint venture
- full merger/takeover (with separate or unified brands)

As shown, merging two airlines is the ultimate step of a cross-border expansion strategy that has many benefits.

These benefits, however, are primarily financial: more specifically, achieving a substantial market dominance over certain routes and airports, as well as more convenient and profitable contract structures and negotiating strength (or bargaining power) in operations may be among the major benefits for a merged airline, even though growing worldwide deregulation and increasing competition make these reasons for a cross-border merger less appealing.

It must be noted that gains may differ with respect to airlines or geographic/market scenarios: as a result, the ultimate goal for both researchers and practitioners is understanding whether expanding the size or scope of a certain company's operations allows to operate more effectively in general, and whether this scenario is consistent across all types and sizes of airlines.

This has been remarked by Yan et al. (2016) and Wanke et al. (2021) in different terms: the first group of authors underline that the sizable number of both analytical and empirical studies regarding the effects of airline M&As has not yet paved the way for better understanding the consequences regarding market power, service quality, network configuration, international competitiveness, and cost efficiency; moreover, in a few specific merger cases, different investigations of the very same M&A have led to conclusions that are partially not consistent with each other,

despite the fact that similar numerical and financial data has been used for the research.

With respect to international mergers and acquisitions, the above mentioned Wanke et al. (2021) remark that there has been no investigation of the “pure effect” generated by the cross-border M&A in terms of efficiency at the state of art: in fact, there has been no attempt to split the positive effects that solely arise from the merging activity and those generated by the external regulatory environment, that can pose limits and constraints to the deal.

With respect to this matter, Barla and Constatatos (2006) carried out a comparison between both merger and strategic alliance and a stand-alone airline company: the common result is lower profits in both scenarios, unless cost reductions are achieved.

However, the most important result of the research with respect to the above-mentioned external environmental effect is the evidence that if both forms of cooperation provide comparable cost savings, authorities tend to prefer strategic alliances rather than a full merger.

Therefore, the authors suggest antitrust/competition authorities and companies to favor joining an alliance both in economic terms and with respect to broader policy implications, if the two operations are similar in terms of cost-effectiveness.

From this conclusion, Yan et al. (2016) argue that the rationale behind the authorities’ orientation to prefer alliances over international mergers is related to the fact that a strategic alliance is likely to induce higher competition and generate an overall larger output; thus, the key difference between mergers and strategic alliances is that through the former airline companies can achieve superior synergies thanks to a higher level of integration and coordination.

Again, Yan et al. (2016) highlight that due to incompatibility of national regulatory frameworks, cross-border mergers are still complex to be achieved, thus making full integration usually not feasible: this situation have pushed many airlines to form strategic alliances as a second-best solution instead.

This sort of international agreements does facilitate cooperation among two or more airlines, particularly when antitrust immunity is granted by the antitrust authorities. The example proposed by the authors is a case in point: Dutch flag carrier KLM and American full-service carrier Northwest planned to merge since the early 1990s, but they were not able to become one company; instead, they opted to a strategic alliance to discuss market positioning, agree upon fares and price strategies, and essentially reaching the highest coordination possible without a full merger. On the contrary, KLM could successfully merge with Air France in 2004 in accordance with the European Merger Regulation (Council Regulation No 4064/89), although submitting undertakings designed by the European Commission to avoid anti-competitive effects caused by the merger.

This view appears to be predominant among researchers: in his study other forms of inorganic growth strategies such as airline partnerships and joint ventures, Bilotkach (2019) expresses his skepticism with respect to the feasibility of transcontinental mergers aimed at creating mega-carriers.

The main obstacles are the so-called “nationality clauses” that regulate bilateral air service agreements and the foreign ownership restrictions posed by several national jurisdictions: if forms of antitrust immunity and joint ventures are granted to companies, the latter will have several ways to manage cross-border (or better, transcontinental) passenger air traffic.

Due to the unprecedented disruption experienced by the entire industry as a consequence of the COVID-19 pandemic, it is not possible to imagine what possible global scenarios would have confirmed or refuted Bilotkach’s affirmations; as of February 2022, the only expression of interest in acquiring a majority stake in an overseas company has been made by Delta Airlines to State-owned ITA Airways (formerly known as Alitalia), which is also targeted by Lufthansa that officially expressed its interest to the Italian government. (Simple Flying, 2022)

This does not absolutely mean that the M&A activity in geographical areas such as North America (mainly the United States) is neglected: actually, it is indeed a market where takeovers and mergers with medium and large-sized airlines have

been common (Carlton et al., 2019) (Schosser and Wittmer, 2015) but cross-border mergers are much less common as previously said due to normative limits.

However, observers and researchers such as Brueckner and Pels (2005) underline that cross-border consolidation can have positive effects at industry-level, (in their study, the two refer to the European airline industry) since that the flag-carrier system that still persists nowadays has too many airlines, thus being inefficient in terms of overall excess capacity; the proposed solution is the progressive consolidation of the industry via cross-border mergers.

Iatrou and Oretti (2016) focused their efforts on the differences among alliances and mergers, and note that carriers, not differently from nowadays' multinational and global companies need "to be fast, efficient, profitable, flexible, adaptable and future-ready, with a strong market position.", and this goal can be better pursued with cross-border mergers as "the main drive behind mergers in the airline industry is 'control', whereas alliance partners have to 'negotiate, compromise, convince", thus implying that a merger would better help companies in reaching their goals of flexibility and global projection.

Besides all of the possible benefits and the secondary goals that code-sharing agreements and alliances could give members, the primary aim of an airline that desires to reach a global dimension through an alliance is nothing but "to expand the geographic scope of its network without undertaking sizeable capital investment".

The authors further expand the international growth and cross-border-related advantages of joining an alliance: alliances represent a valid choice to airlines for enhancing their ability to increase their own market power and significantly cut the overall level of competition.

This process simultaneously raises entry barriers to potential entrants in a route or in a hub.

Bougette and Hülscherath (2014) are among the few who sought for evidence around entry-inducing effects generated by a horizontal merger: in contrast to theoretical contributions, empirical findings suggest that the horizontal merger

between US Airways and America West did not induce any particular competitor entry, with just partial increase of entry activity on America West's routes.

Indeed, those routes with substantial overlap (i.e., routes where the two companies competed against each other before the merger) that posed more competition concerns showed no competitor entry activity.

The merger analyzed in this case is not a cross-border one, but its features are very similar to those that characterize past (and potential) mergers in other scenarios such as the European or the South American market: the companies have two distant hubs (Phoenix and Las Vegas for America West; Charlotte, Philadelphia, and Pittsburgh for US Airways), strong network complementarity, limited route overlap.

These concepts will be further recalled in this chapter and more extensively in Chapter 2 when analyzing the two case studies.

In aviation industry however, the ultimate effect of international mergers, acquisitions, alliances, or joint ventures is absolutely complicated to evaluate *ex ante*, and this is valid for the involved companies and the competent authorities (e.g., the European Commission or the US Department of Justice).

Among the most important studies in this sense, Brueckner and Spiller (1991) discovered that the overall level of welfare generated by the merger is related to the nature of the integration among the two airlines: in fact, merging two companies helps generating a network effect and other welfare-related positive effects can be achieved if externalities such as double marginalization are avoided.

Merkert and Morrell (2012) listed out several advantages and risks of M&A transaction in the airline market, and those pertaining cross-border merger and subsequent national or international market entry are:

- substantial increase in market share at the expense of direct competitors that arises from a rationalization of routes, destinations and schedules. The increase in market power translates into increased revenues if the until then separated companies were previously competing in common markets (Chilean LAN and Brazilian TAM's merger into LATAM has been agreed by following this rationale) (Iniguez and Ichijo, 2018);

- consequent competition reduction or elimination: this advantage has probably been one of the drivers of certain recent M&A cross-border M&A operations in Europe that not only allowed to enter a foreign market, but also granted the protection of the domestic market. The authors note that Lufthansa recently undertook a series of cross-border acquisitions (Austrian Airlines, Swiss Airlines, Brussels Airlines) that primarily benefited the German flag carrier by eliminating potential competition on its home soil, and secondarily in other European foreign countries where Lufthansa competes.
- Acquisition of scarce and valuable airport slots and company-related facilities in valuable hubs, especially if the merged companies own “grandfather rights” to a rather significant number of slots in important airports or key airports for the acquiring company’s international expansion and dimension.

Of course, bringing together two companies into one and only entity is a non-reversible operation that carries risks and criticities that must be assessed *ex-ante* and sometimes are very difficult to predict in any case; this is particularly worth for all of the cross-border mergers previously mentioned in this chapter due to the merged companies’ size and geographical extension of their operations.

It is also true that imagining a scenario where the largest carriers can easily exert their domination on a *quasi*-global market would be irrational and it would mean to ignore all of the issues related to this sort of M&A operations.

1.3. Advantages, challenges, and success factors of growth through M&A in the European scenario

Looking at the phenomenon of cross-border mergers and acquisitions in the European Union, it is possible to assert that it became more common in the last two decades: it must be anyway noticed that the overall number and the size of the deals remains reduced if compared to the American market (or more specifically, US market).

Burghouwt et al. (2015) noticed that the liberalization in Europe has been followed by a 40% increase in the number of single carriers operating in the European Union from 1986 to 1990. From 1990 on, the number of carriers steadily decreased by a 35%, from around 200 companies to less than 130 in 2013.

The most important condition to be mentioned with respect to the effects of the international mergers and acquisitions wave in the European market is that the decreased number of players at industry level did not result in fewer carriers at route level: this means that the average numbers of carriers per route did not decline, and international market entry of bigger, stronger, merged airline company did not restrict competition at route level throughout the European Union.

While there have been no M&A operations involving two or more low-cost carriers (to name a few, Ireland's Ryanair, Hungary's Wizz Air and UK's Easyjet), cross-border deals have increasingly involved full-service carriers (more concretely, the former flag carriers that are minority-owned by national governments or no longer State-owned).

In fact, the largest full-service carrier currently operating internationally across Europe are merged companies: the first and probably most important cross-border merger was between Air France and KLM in 2003, and it has been then followed by other market players such as Lufthansa (which acquired Swiss, Austrian Airlines, Brussels Airlines) and as British Airways and Iberia which joined forces in 2012, merging into IAG, International Airlines Group.

Until recent years, European airlines showed both the highest unit costs and the highest unit revenues of the five macro-areas considered (North America, South America, Europe, Asia, Oceania), and given the fierce competition among markets and on a global scale, it seems improbable that European airlines will be capable of increasing unit revenues; for these reason, European carriers are likely to set off cost synergies and the cross-border expansion should generate less revenue synergies. (Schosser and Wittmer, 2015)

This finding relates to what Gudmundsson et al. (2020) investigated with regards to the mergers' impact on airlines' cost structures: their findings suggest that they may

seek to reduce variable costs to strengthen their competitive advantage and consequently lower their prices, regardless of the overall fixed costs.

The authors believe that this can be one of the keys in improving the competitive position of a merged company in its market.

After underlining that mergers are aimed to ultimately increase market share and shareholders' value, Hsu and Flouris (2017) notice that two type of cross-border mergers are relevant and evident in the European airline industry.

The first type is represented by the so-called "focusing mergers", that take place when an airline seeks to take over a competitor that shows a similar operational structure and competes in common markets and routes: clearly, the aim is to take over a competitor that shows a quite high degree of route overlap.

Lufthansa's several cross-border acquisition in Austria, Switzerland, Belgium represent a clear example of focusing mergers.

"Diversifying mergers" belong to the second type, and M&As such as Air France-KLM and British Airways-Iberia are valid examples indeed: in these operations, the key point is not gaining market power integrating similar airlines, but rather exploiting the complementarity of the respective networks: as an example, Iberia's large network in Southern Europe and Latin American and British Airways' well established network in North America, Great Britain and Asia complement each other, offering one company to extend its operations in the other's leading geographical segment.

The concept of complementarity is pivotal in airline mergers: it has been mentioned in paragraph 1.2. and will be recalled and analyzed in detail.

The above-mentioned authors emphasize that regardless of the type of merger the companies undertake, the investors' reaction appears to be positive in every of the major European airline M&As; in fact, it has been demonstrated that to an actual merger (or just an expression of interest) corresponds a steady positive dependency between trading volumes and stock returns.

Referring to the previously mentioned "diversifying mergers" that exploit the beneficial effects of integrating complementary networks, another distinctive feature

of the European scenario is noteworthy: Németh and Niemeier (2012) provided an overview of the most important M&As in Europe and the relative assessment of competition by the European Commission, so as to carry out a detailed analysis of the European Commission's assessment of several merger proposals.

According to the authors, potential harm to competition is evaluated on a case-to-case basis by the regulatory authority, looking at the relevant market which is neither the entire European market, nor a specific airport or city, but rather a city pair (i.e., flights between Paris-Amsterdam and Lyon-Amsterdam can be seen as separate market and shall be treated accordingly); this means that the following must be considered prior to any approval of a merger:

- Product/service substitutes (number of firms offering a similar service, such as lining the same airport pair or city pair subject to analysis)
- Degree of competition between these substitutes
- Entry barriers
- Potential responses of competitors (oligopolistic interaction between firms)

Looking at these constraints, it is clear that a fusion of two carriers with an overall high degree of parallelity (and conversely, a very low degree of complementarity) may be hampered, if not halted, by the European Commission since an abuse of market power would raise entry barriers and reduce competition offered by substitutes.

Németh and Niemeier (2012) took into analysis the Air France/KLM merger case so as to show the most important limitations to a deal the competition authority can impose to the involved parties; they are listed below:

- Surrender of slots: this can happen in multiple hubs and with no limitation in time
- Reduction of frequencies: for example, the EU commission imposed a limit of six frequencies per day on the Paris-Amsterdam route
- Freeze of frequency: no increase of flights on certain routes

- Automatic price reduction mechanism: for instance, if the merged airline offers its customers a lower fare for a certain route (e.g., Paris-Amsterdam), it has the obligation to lower its fare on the Lyon-Amsterdam route as well.
- Forcibly allow new entrants to be hosted in the newly created frequent flyer program

Hüschelrath and Müller (2015) investigated the market power effects and the market entry evidence after the Delta-Northwest merger: their research highlights that “it can be said that the higher the degree of complementarity of the two networks, the lower is the probability that the DOJ will challenge the merger proposal”. The authors also affirm a merger between non-overlapping networks would give customers additional travel possibilities, thereby offering them higher value that justifies price increases. For this reason, antitrust and competition authorities prefer route complementarity to route overlap. (Iatrou and Oretti, 2016)

Holtz and Grimme (2007) warn that both in mergers and alliances pure complementary network do not create any market power, and for this reason the companies must have some common routes or presence in certain hubs.

Thus, in practice M&As are nothing but the combination of complementary and parallel networks that are characterized by different levels of density, competition, economies of scale and scope.

Holtz and Grimme in the same study highlight some key elements that can make a merger successful:

- Double hub-strategy in two large airports
- Strong market power
- Relevant degree of network complementarity

1.4. Summary and conclusion

In this chapter, a theoretical review on international airline mergers and acquisitions has been carried out.

The first paragraph focused on mergers and acquisition in general, and the subparagraph analyzed the phenomenon by taking into account the cross-border component: international mergers and acquisitions as a growth strategy represent the object of this Master's thesis.

Paragraph 1.2. instead considered the phenomenon international M&A in the airline industry; the subject is M&A as a growth strategy in the EU airline industry, and it is analyzed in paragraph 1.3.

While the organic growth is “expansion of a firm's operations based solely or at least primarily on its internally generated resources” (Guth, 2016), inorganic growth entails acquiring another company with the effect of entering a certain market, acquiring certain knowledge and capabilities, influence the performance and the choices of the acquirer company's main competitor. (Yang, 2018).

In the aviation sector, cross-border M&A is a valid option for entering a market and it has positive economic and strategic effects (Merkert and Morrell, 2012); however, this type of operations hides regulatory risks that can reduce those positive effects.

Cross-border consolidation can have positive effects at industry-level (Brueckner and Spiller, 2005), and better helps airline in reaching their goals of flexibility and global projection, while alliances allow them a good degree of internationalization without committing sizeable financial resources. (Iatrou and Oretti, 2016)

However, cost reduction must be achieved to benefit from positive results both from alliances and mergers, even though antitrust authorities prefer alliances to cross-border mergers given the lower risk of restriction of competition (Barla and Constatatos, 2006; Yan et al., 2016)

From a theoretical perspective, a viable solution for achieving synergies, expand the merged network and avoid regulatory limitation is seeking for network

complementarity (Holtz and Grimme, 2007, Hüscherlath and Müller, 2015, Brueckner and Spiller, 2005).

In fact, merging two airline that show high route complementarities (and consequently low route overlap) increase the possibility of approval, deliver superior value and are therefore more capable of succeeding when entering a new market through a merger or an acquisition.

In the following chapter, the Air France-KLM case and the EasyJet-Wizz Air proposed deal will be discussed so as to compare academic, theoretical findings with two real case studies.

Chapter 2 – Case studies

2.1. *European Airline Industry – overview and outlook*

The European airline industry does not greatly differ from every other regional aviation market as companies belonging to the 43 EUROCONTROL member states still seeks to match the pre-pandemic figures concerning number of overall flights, peak daily flights, in-year revenues and overall passengers carried.

Some headline data (in comparison with 2019) updated to December 2021 clearly show this: (Think Paper #15 EUROCONTROL)

- Intra-European traffic: - 43%
- Scheduled carrier flights: - 52%
- 1.4 billion fewer passengers carried
- Leading aviation groups down by -30% (Turkish Airlines) to -64% (EasyJet)

The industry experienced a partial recovery, pushed by mass vaccinations, enforcing of EU Digital COVID certificates: losses in passenger traffic and scheduled flights is still not distributed equally among players in the market, but increased resilience and predictability are helping the whole industry stay afloat, despite further COVID-related restrictions, mainly related to the Omicron BA.1.1. and BA.2. variants that impacted global traffic between 2021 and 2022.

Intra-European flights account for the vast majority of flights performed within EUROCONTROL countries, namely 81%: the figures below show the other extra-European flights as well as Europe's top 10 country pairs chart, where daily flights within Spain-Spain and France-France remain leader.

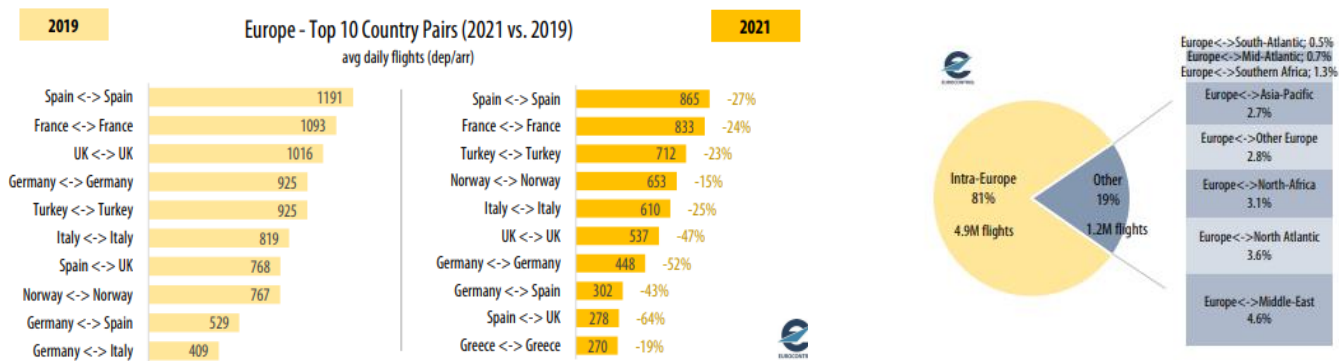


Table 1 - Top 10 Country Pairs

(2021 vs. 2019). Source: EUROCONTROL Aviation Intelligence Portal.

Table 2 - Breakdown of European flights per destination. Source: EUROCONTROL Aviation Intelligence Portal.

As of March 2022, no other relevant data concerning the regional industry’s current situation and short-term outlook were made available by authorities and industry experts: the only relevant update concerns the impact of Russia’s special military operation in Ukraine in terms of air passenger traffic, jet fuel pricing and airline fares.

% share of passenger numbers in 2021	Total European traffic (excl. Russia domestic)	Global traffic
Ukraine	3.3%	0.8%
Belarus	0.3%	0.1%
Moldova	0.4%	0.1%
Russia international	5.7%	1.3%

Table 3 – IATA Factsheet March 2022

More specifically, traffic shares impacted by travel bans and airspace restrictions imposed through NOTAMs (acronym for “Notice To Airmen) that denied European air carriers their ordinary service to Ukraine, Belarus, Moldova and Russian Federation, impacting total European traffic in the proportions calculated by IATA as of 25 March 2022 and showed in this page.

The more relevant fact to highlight is related to fuel prices’ sharp rise by the end of March 2022: crude oil trading closed at USD 150 per barrel on March 21st and instability on commodity markets and upward pressures on prices may persist if sanctions are enforced against the Russian energy sectors or oil imports are imposed, according to IATA. (IATA Factsheet, 25 March 2022)

The impact on the European industry is distributed unevenly: while fuel expenses are now back to the pre-pandemic levels for European companies, not all airlines

have been impacted equally this conjuncture as several airlines did not hedge their fuel demand.

Looking at jet fuel consumption hedged in H1 2022, EU companies tended to hedge price risk: Air France-KLM and EasyJet have suffered less, hedging 68% and 60% of their consumption respectively, while Wizz Air did not hedge at all (Reuters, Airline Investors Relations 2022).

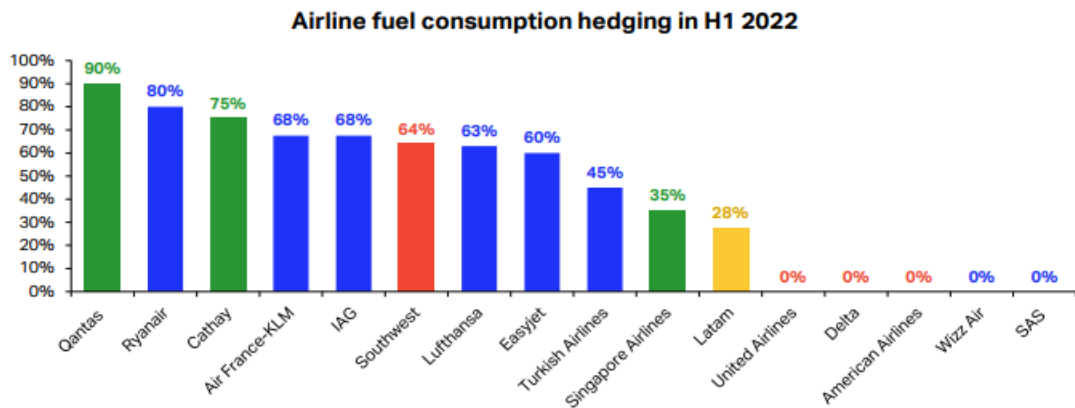


Table 4: Airline fuel consumption hedging in H1 2022 (Reuters, airline investors relations – 2022)

Looking at the strategic scenario, five low-cost carriers and five full-service carriers compose Europe’s top 10 aircraft operators’ chart in terms of daily flights, led by Ryanair, Turkish Airlines and Air France; EasyJet dropped from second to fifth largest, operating -64% daily flights, while Wizz Air was not among Europe’s top 10 operators and was seventh largest in December 2021. (Think Paper #15 EUROCONTROL)



Table 5: Top 10 EU Aircraft Operators (2021 vs. 2019). Source: EUROCONTROL Think Paper #15 (2022)

Europe's top operators are still on their path to recovery: the number of flights performed in 2021 is much lower if compared to pre-pandemic operative levels: Norwegian and Alitalia operated 168.000 and 140.000 fewer flights respectively, accounting for -76% and -72% traffic losses vs. 2019.

EasyJet operated -64% flights, while Wizz Air contained its traffic loss (-34%). (Think Paper #15 EUROCONTROL)

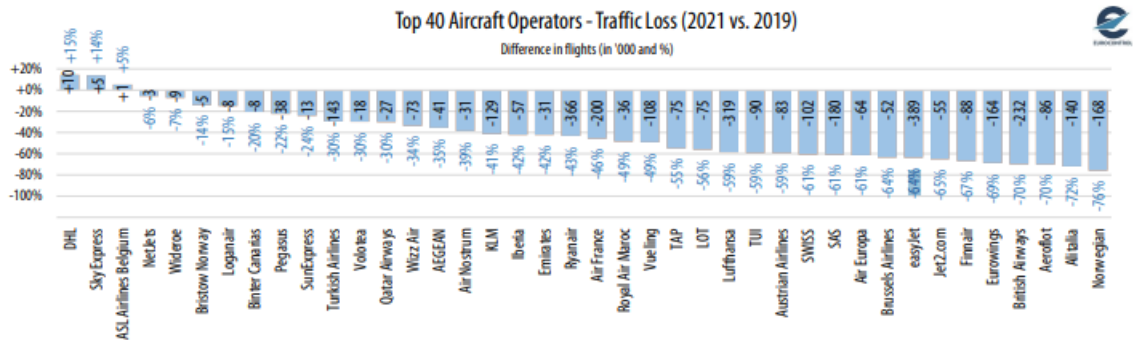


Table 6: Top 40 Aircraft Operators traffic loss. Source: EUROCONTROL Think Paper #15 (2022)

If we look at commercial passenger traffic only (thus, without considering cargo traffic and business aviation), dynamics across the low-cost and full-service segments broadly differ even though they lead to very similar year-on-year results in comparison with 2019 levels.

Low-cost companies benefited from a quick recovery during summer season, having however closed 2021 having operated at -54%, despite some players reached 2019 levels in August; traditional carriers closed at -52% of 2019 levels, suffering the reduced international connectivity but managing to stay afloat with high domestic connectivity levels, especially during months of lower seasonal demands.

(EUROCONTROL Press Release, 6 April 2022)

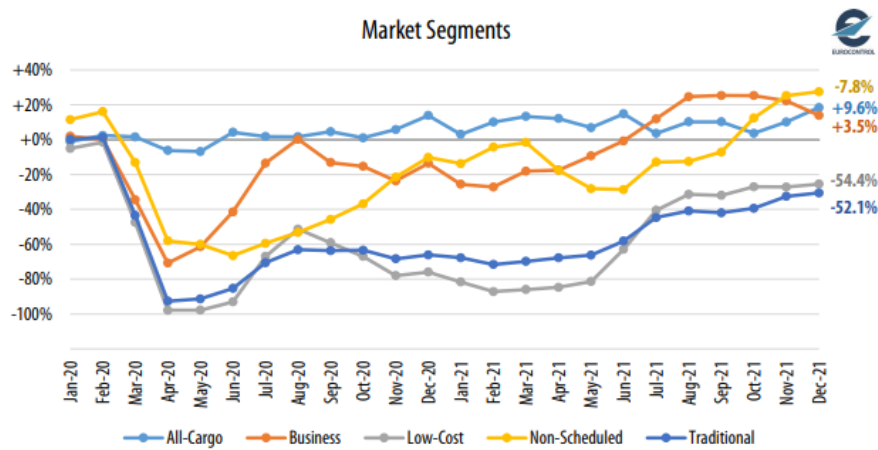


Table 7:

EUROCONTROL Market Segments. Source: EUROCONTROL Press Release (April 2022)

Despite the comparison with the pre-pandemic era appears to be dramatic, the chart above shows that it is worth underlining that airlines are progressively improving their operational levels in comparison with FY2020 and they are on their way to bringing their businesses back to black in 2022.

The trend is clear if we look at the last two years' comparison between actual and planned en-route service units, used to measure the number of flights, the overall distance flown and the evolution of aircraft weight.

En-route service units equal the product of distance flown (expressed in 100 km) and the square root of the Maximum Take Off Weight of the aircraft performing the flight (expressed in 50 tonnes). (EUROCONTROL Aviation Intelligence Portal).

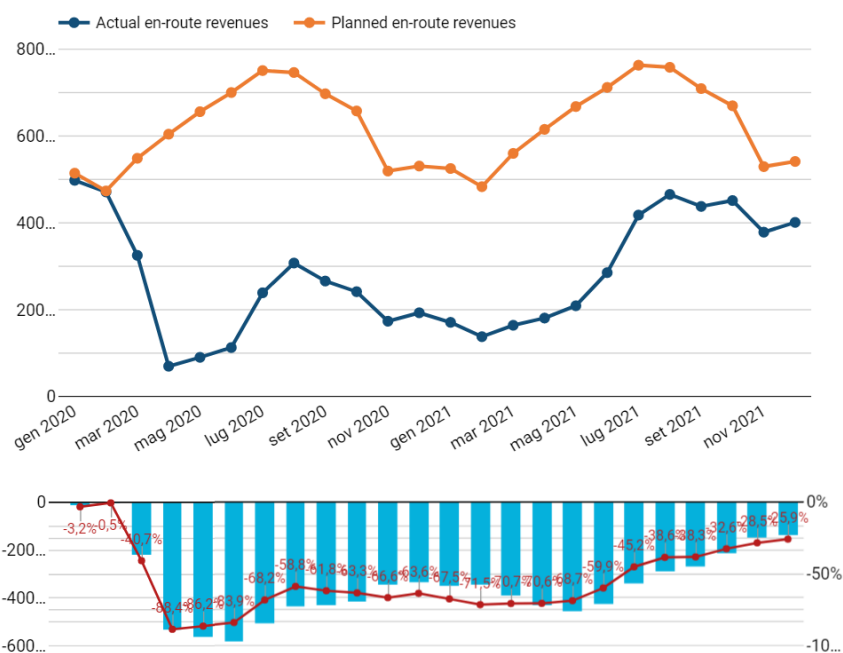


Table 8: Monthly revenues from en-route charges – Source: EUROCONTROL Aviation Intelligence Portal. (million euros).

It is quite clear that planned and actual revenues in terms of en-route service units were on their way to match again starting from H2 2021, reaching their minimum discrepancy since April 2020: looking at the Single European Sky geographical scope, it has been recorded that the narrowest gap between planned and actual en-route service units has been reached in December 2021. (€541M vs. €401M, -25,9% variation)

While EUROCONTROL has not released any data regarding H1 2022 yet, the scenario appears to keep improving.

In fact, EUROCONTROL forecasts a steady recovery from April to December 2022, noting that companies are progressively adding seat capacity, and some of them have already outpaced their pre-pandemic levels: in early April the organization provided three traffic scenarios for the current year, foreseeing traffic returning slightly below 90% of 2019 levels by this year’s summer and keeping its pace until December 2022, as intra-European connections are back to 2019 levels or even exceeding them and long-haul flows progressively restart.

The base scenario isn’t distant from the optimistic one: the long-awaited industry recovery is expected to translate into 9.3 million flights operated in Europe in 2022.

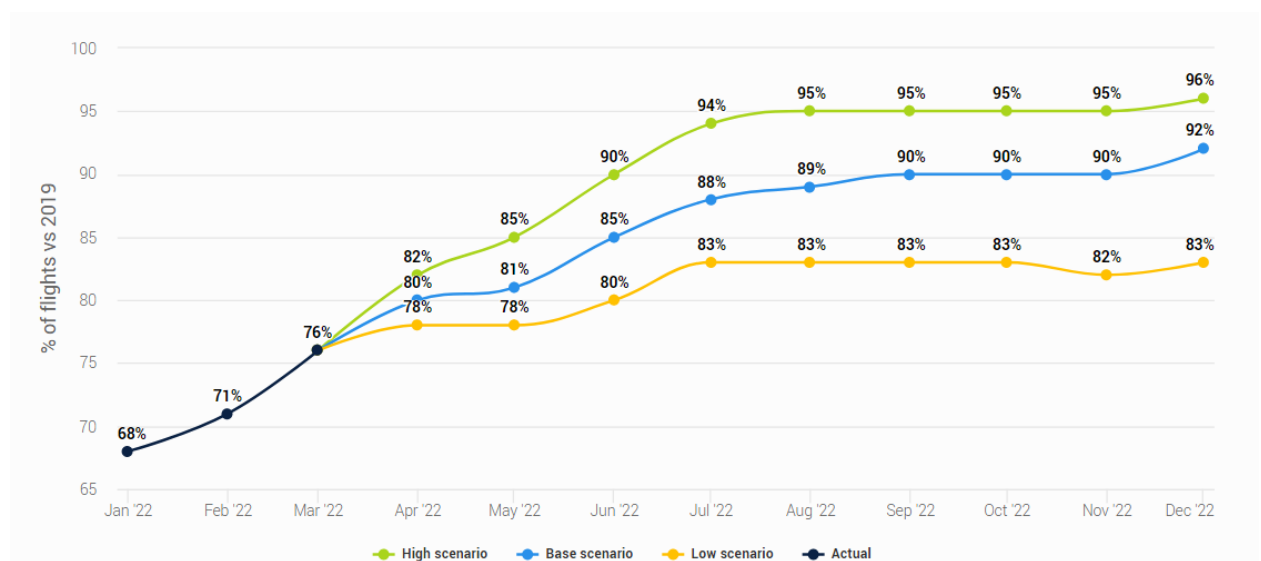
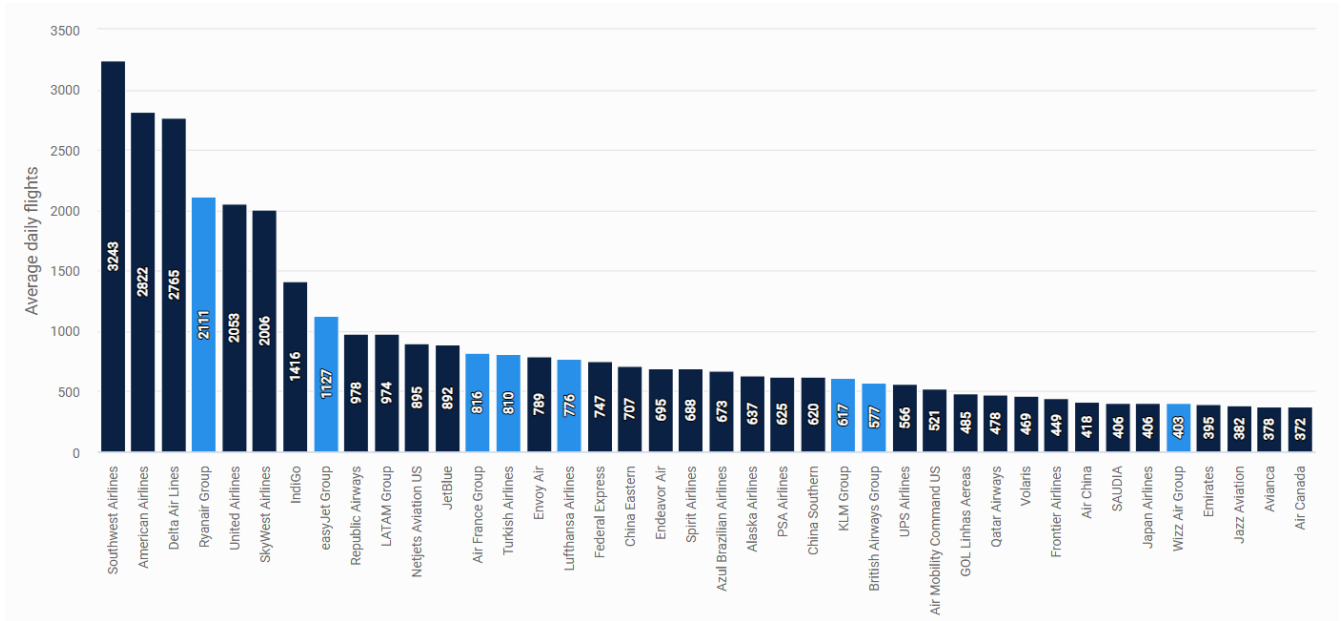


Table 9: Traffic Scenarios for Europe 2022 Traffic as a % of 2019 - EUROCONTROL Aviation Intelligence Portal.

Eventually, a look at the global competitive setting is worth to show the size of the most important European airlines in relation to the world’s leading companies. The chart below shows world’s top 40 companies for average daily flights operated between March 6th and 13th: looking at the top 10, six companies are based in the United States, while eight European companies are featured in the overall top 40.



Ryanair and EasyJet are the only European companies in the top ten, while Wizz Air recently joined the chart.

Table 10: EUROCONTROL Data Snapshot 27 – Global top 40. Data provided by Flightradar24

According to EUROCONTROL Data Snapshot compared to other areas, the number of European flights recovered with an average pace from the COVID-19 downturn. Wizz Air operated just -10% flights in comparison with 2019, making it into the top 40 and aiming to scaling up; British Airways dropped by 10 places, while Ryanair operates in positive territory and the other companies manage to maintain their positions into the global top 40.

2.2. Air France-KLM merger case study

Air France-KLM in brief

Air France: France's flag carrier was founded in 1933, when five different French airlines founded before World War II joined forces embarking on their journey in passenger and commercial aviation.

As early as 1946, AF established its first regular service linking Paris and New York; after entering the era of wide-body airplanes in the early '70s, Air France pioneered the supersonic era by introducing the Concorde in 1976, connecting Paris to Rio de Janeiro, Caracas, Washington and New York.

Air France was open to private capitals in February 1999 and founded SkyTeam alliance in 2000 alongside Aéromexico, Delta and Korean Air.

AF's core activities are passenger and cargo transport, maintenance, and repair operations. (Source: airfranceklm.com)

KLM Royal Dutch Airline: the company has been founded in October 1919 and still is the oldest airline in the world. KLM operated regular long-haul connections with its colonies Indonesia and Curacao earlier in 1934 and started flying from Schiphol in 1967.

KLM pioneered the world of multilateral alliances, initiating a strategic alliance with Northwest Airlines in 1991 and signing a code-sharing agreement with 16 different airlines.

Its core activities are passenger and cargo transport, maintenance and repair operations, low cost flight operations (operated by Transavia). (Source: airfranceklm.com)

The merger

The merger between Air France and KLM took place in 2004 and despite many years since the French and the Dutch flag carriers joined forces have passed, it remains among the few important ones in the European scenario (which is still not as consolidated as the US market) and gave life to a leading group that still allows the two companies to be in the top 10 European airlines in terms of flights operated. 9/11 attacks unexpectedly put world aviation's back to the wall, and KLM was already seeking for a partner years before that dreadful event: Alitalia agreed with the Dutch side on starting a path to the merger by creating a joint venture, but the companies broke ties in September 2000 as the Italian government drag its feet on multiple aspects of the agreement.

The dramatic demand drop started in the last part of 2001 and the skyrocketing fuel price following the Iraq war urged KLM to find a partner: over the FY 2002 and 2003 KLM posted a combined net loss of €572 million.

With increased competition due to liberalization and increased operating costs, KLM's management understood that there was room for three airlines only and KLM had to merge with one out of British Airways, Air France, Lufthansa.

After entering into talks with British Airways in 2001 looking for a commercial alliance, the Dutch side admitted having entered preliminary talks with Air France in July 2002 about joining SkyTeam alliance (thus, an international merger was not part of the plan in the early stages). (Gudmundsson et al., 2014)

Both the European Commission and the U.S. Department of Justice gave their approval to the deal in February 2004, and the Group was officially founded in May 2004 in the form of an "umbrella organization" (one holding, two airlines).

At the time of the merger, the combined turnover equaled €19.2 billion, giving life to world's leading group in terms of turnover and Europe's leading group per total annual traffic (measured in RPK, revenue passenger kilometres). (Gudmundsson et al., 2014)

The once-separated companies would have been owned by the Air France-KLM holding, participated by the two companies' former shareholders.

Which goals this transaction had before becoming reality?

The main idea was to leverage the complementarities of the two separate brands (in terms of destinations offered, fleet, maintenance capacity, fare, and destinations combinability) to give customers a superior service.

However, if among an airline's major assets slots shall definitely be counted, it must be highlighted that both Air France and KLM benefited from a strong position in two leading European airports, Paris CDG and Amsterdam AMS.

In fact, they were respectively the first and the fourth airport in the continent, with around 93 million passengers combined in 2004 (and as of March 24-30th 2022, the two airports are still featured in the top 3 continental airports). (EUROCONTROL - Think Paper #15)

The dual hub strategy has been central for building a complementary destination network, with flights to Northern Europe mainly operated from Amsterdam AMS, and flights to France and Southern Europe from Paris CDG, while routes to Central Europe were covered by both Air France and KLM from their respective hubs.

(Source: Air France Form 425 filing to US S.E.C).

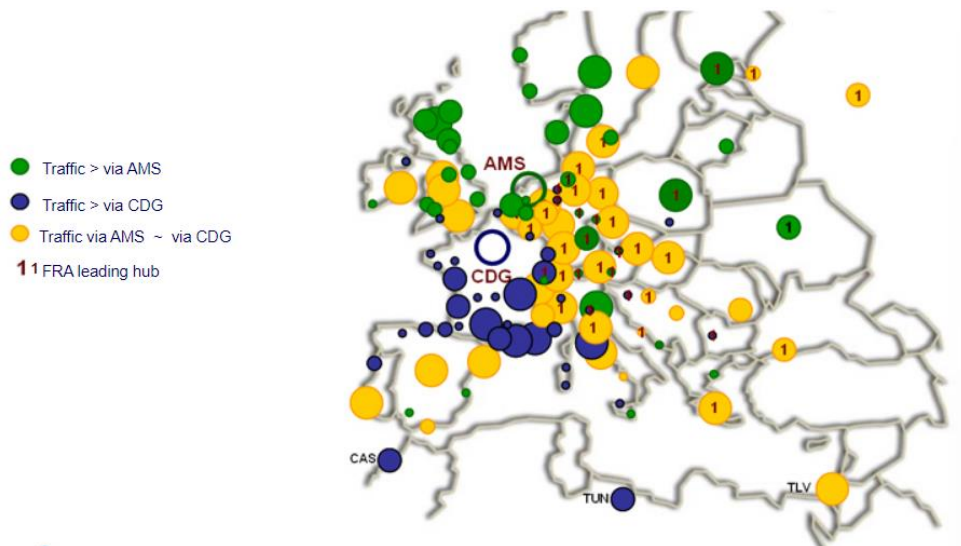


Table 11: AF-KLM commercial presence in Europe – AIR FRANCE FORM 425 filing to US S.E.C.

At the time of the merger, the group's long-haul network was the real core of all operations, covering 101 destinations in around eighty different countries: 27 of them were operated by KLM only, whilst other 43 were operated by Air France only; only 31 out of the 101 total destinations were common destinations, and they were routes from Paris CDG and Amsterdam AMS with an all-year high level of passenger traffic (e.g., flights to Los Angeles LAX, New York JFK, Tokyo HND). The new holding could combine Air France's strong presence in Africa and North America with KLM's network in Middle East and Asia. It is worth noting that long-haul traffic represented 79% of overall traffic of the company and 57% of total revenues.

The combined network offered Air France's customers 40 new routes, while KLM customers gained 90 new routes. (Gudmunsson, 2014)

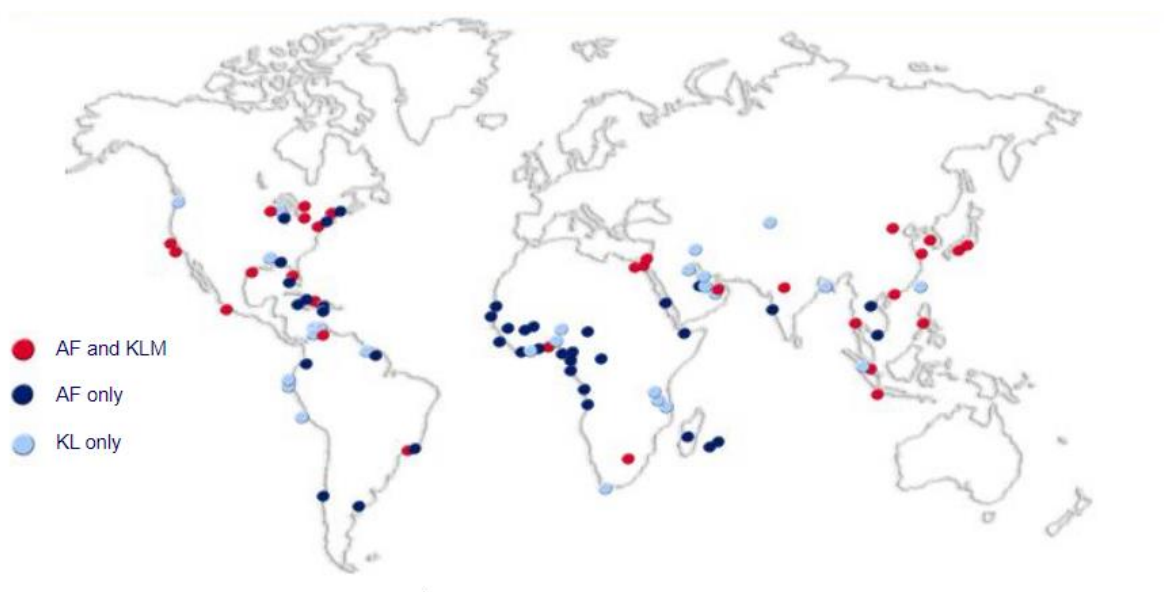


Table 12: AF-KLM long-haul network before merger – AIR FRANCE FORM 425 filing to US S.E.C.

Given the scenario depicted above, it is now possible to perform a SWOT analysis of the Air France-KLM group: the deal gave life to a global leader that builds much of its success on a dual hub strategy and an high complementary network that extends across the globe; however, this overextended network could (and still can) be seriously threatened by growing cost base and short-haul competitors such as low cost companies and other means of transportation (e.g., high-speed rail).

<p>Strengths</p> <ul style="list-style-type: none"> - Separate hubs and brands with strong identity - Strong complementarity and global network - Slots at primary, capacity constrained hubs 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Weak financial position at the merger (KLM) - High cost base (if compared to low cost competitors) - High price sensitivity to oil prices
<p>Opportunities</p> <ul style="list-style-type: none"> - Cost savings generated by restructuring activities - Revenue enhancement generated by brands integration 	<p>Threats</p> <ul style="list-style-type: none"> - Growing pressure from low-cost carriers - Global political/security risks that can threaten long-haul demand growth and pressure oil prices upwards

Table 13. SWOT Analysis. Own elaboration

Deal approval and competition-related undertakings

Complementarity is key not only with respect to revenue generation, slots allocations among the two airlines and maximally extend the new combined network: a low degree of overlap in the newly-merged company's routes is essential to receive green light to the deal from European authorities and not to be subject to particular conditions such as frequency freeze, giving up on particular slots, price caps, and other forms of undertakings aimed at addressing specific competition concerns raised by the concentration.

Looking at the short-haul, European routes, the merger has been approved with minimal undertakings requested to the parties if they are compared to the size of the merger itself and to the group's short-haul traffic in terms of traffic (Case No COMP/M.3280 - AIR FRANCE / KLM).

The most important measures to be mentioned are:

- surrendering without any compensation 94 slots at Amsterdam and/or Paris and/or Lyon and/or Milan and/or Rome, so as to allow one (or more) new competitors to operate new or additional non-stop scheduled daily passenger air services from Amsterdam to Paris, Lyon, Marseille, Toulouse, Bordeaux, Milan, Rome, Venice, Bologna
- making available six frequencies per day between Paris CDG and Amsterdam AMS in order to allow a new entrant to use a slot for serving the two cities in competition with Air France-KLM
- commitment not to add further frequencies between on Paris-Amsterdam and Lyon-Amsterdam, and to automatically apply a price reduction on the Lyon-Amsterdam route if a price reduction on the Paris-Amsterdam route is applied; price reductions must be equal.
- entering into an interlining agreement at the request of the new entrants for all of the above-mentioned city pairs; allowing the new entrant to join Air France-KLM's frequent flyer program in the above-mentioned city pairs at the parties and their partners' same conditions.

The Commission explains that the goals of all the conditions pertaining to prices and fares imposed to the Merged Entity is twofold. First, given that potential entrants have highlighted that Air France-KLM could apply predatory pricing, thanks to its increased strength, the condition posed by the Commission made such pricing strategy considerably more costly on the city pair Paris-Amsterdam (since the very same price cuts would have been applied to the other monopolistic city pair, that is Lyon-Amsterdam). Second, as long as there is no other airline entering the Lyon-Amsterdam route, the condition pertaining to fares would allow travelers in this route to benefit from price reductions which are the consequence of increased competition on the city pair Paris-Amsterdam, thus creating “artificial” competition on a monopoly route.

Synergies

Prior to the merger, the synergies were valued between 385 and 495 million euros in a five-year period since the creation of the holding.

Around 65-75 million euros of synergies were forecasted for the first year; at year-end the achieved synergies were much higher, being around 115 million after fiscal year 2004.

In 2004, increased passenger revenue has generated about 73 million euros in synergies, primarily as a result of the harmonization in the long and medium-haul networks and the implementation of combinable fares between the two companies. Cargo business generated 12 million euros in synergies.

Maintenance-related synergies generated around 15 million in savings, mainly due to the return of maintenance operations that were previously outsourced

Thus, the expected synergies at the end of the fifth year should have equaled 580 million euros, divided between cost savings (40%) and revenue synergies (60%).

Again in 2005, the Group achieved its goal of €200 million in synergies, by realizing 215 million.

Among the drivers of this achievement have been the optimization of the medium-haul destination offer (leading to save 47 million euros in line with the business plan) and the optimization of purchasing and for around 100 million euros.

(Gudmundsson, 2014 and AF-KLM Annual Reports, 2004-2009)

		Year 3	Year 5
<i>Sales and distribution</i>	Harmonizing sales policies		
	Coordination sales forces		
	Reducing sales	€40m	€100m
	Catering and ground handling costs		
<i>Network revenue management fleet</i>	Optimizing networks and schedules		
	Harmonizing revenue management		
	Optimizing fleet	€95m-€130m	€130m-€195m
	management		

	Coordinated management		
Cargo	Optimizing networks and schedules		
	Coordinating sales policy	€35m	€35m
	Sales cooperation		
Maintenance	Joint purchasing		
	In-sourcing of sub-contracted work	€25m	€60-€65m
	Pooling of spare parts		
IT Systems	Gradual converging of IT systems		
	Other	€25-30m	€60-100m
Total:		€220m-€260m	€385m-€495m

Table 14: AF-KLM estimated 5-year synergies – Gudmundsson S.V., (2014) “Merger vs. Alliances: The Air France-KLM story and AF-KLM Annual Reports, 2004-2009”.

Thanks to the complementarity between the Group’s three core activities (namely passenger, cargo, maintenance & repair operations), Air France and KLM have eventually achieved substantial synergies.

The initial estimate of €495 million within the first five years (thus, before 2008-09), these synergies have been updated every year with their latest revision standing at €750 million over the 2004-2009 period (+51.5% vs. the original target set at the time of the concentration).

As of March 31, 2009, the target had been exceeded, with synergies reaching to €790 million: after the five-year period the Group decided to no longer take track of any other revenue and cost synergies, given that it became more difficult to identify those synergies properly linked to the merger process and those arising from improved integration of the two air carriers.

2.3. Wizz Air – company overview

Founded in 2003 and became Hungary's de facto national airline, Wizz Air (IATA code: W6, ICAO code: WZZ) grew at a breakneck speed throughout the last years, becoming Central and Eastern Europe's largest low-cost airline.

As of April 2022, the ultra low-cost airline operates more than 700 routes in 151 airports across Europe, North Africa, and the Arabian Peninsula.

The company has been listed at the London Stock Exchange in 2015. (wizzair.com)

As of April 2022, the Hungarian airline operates a fleet of 119 Airbus A320 family aircraft, thus serving routes in the short-medium range. Wizz Air's average fleet age is 4.9 years (company data), much lower than its natural competitors Ryanair and EasyJet (11.5 and 9.0 years respectively, according to atdb.aero).

The company's fleet will be progressively expanding in the upcoming years as Wizz Air placed an order for 196 brand new Airbus A321 family aircraft, with the twofold goal of further reducing its average aircraft age and cut CO2 emissions per passenger kilometer by 25% by 2030. (Wizz Air - Annual Report 2021)

Company aviation KPIs – Load factor, RPK, APK

In order to better investigate an airline company's operational performance and overall profitability, it is needed to introduce some operational terminology useful in this sense.

The first metric is Available Seat Kilometers (ASK) – it measures a flight or an airline's total flight passenger capacity and its ability to generate revenue for a given flight or for the entire company, obtained with the following product:

$$\underline{ASK = (available\ seats\ on\ a\ flight) * (number\ of\ kilometers\ flown\ on\ a\ flight)}$$

The second important metric is Revenue Passenger Kilometers (RPK) – it is used to calculate the total number of kilometers travelled by paying customers, obtained with the following product:

$$RPK = (number\ of\ paying\ passengers) * (distance\ travelled)$$

Passenger Load Factor (PLF) or simply Load Factor (LF) is nothing but the ratio of the above-described metrics, aimed at measuring a given aircraft or airline's effective utilization of its available capacity. The ratio is usually multiplied by 100 so as to obtain it in percentage form:

$$LF = (Revenue\ passenger\ kilometers) / (Available\ seat\ kilometers)$$

On the costs side, Cost Per Available Seat Kilometers (CASK), indicates the average cost of flying a passenger seat one kilometer. It is a ratio:

$$CASK = (Operating\ expenses) / (Total\ Available\ seat\ kilometers\ (ASK))$$

Wizz Air appears to outperform every industry average in the last 5-7 years.

First, it is important to look at the load factor: it represents the first metric to look at in order to understand one airline's capability of at least reaching break-even or generate profit, as the case of Wizz Air which pursues a "load factor-active business model trying to maximize load factor".

Looking at the figures, Wizz Air's passenger load factor has always outpaced the industry average, being above 90% since FY2017 with the exception of 2021, where it sank to an all-time low 64%.

Unexpectedly, the highest passenger load factor ever reached by the company has been recorded in 2020, where it peaked at 93,6%, far higher than the European industry average figure that dropped to 68,7%.

Company-related data has been obtained from Wizz Air’s annual reports (2015-2021).

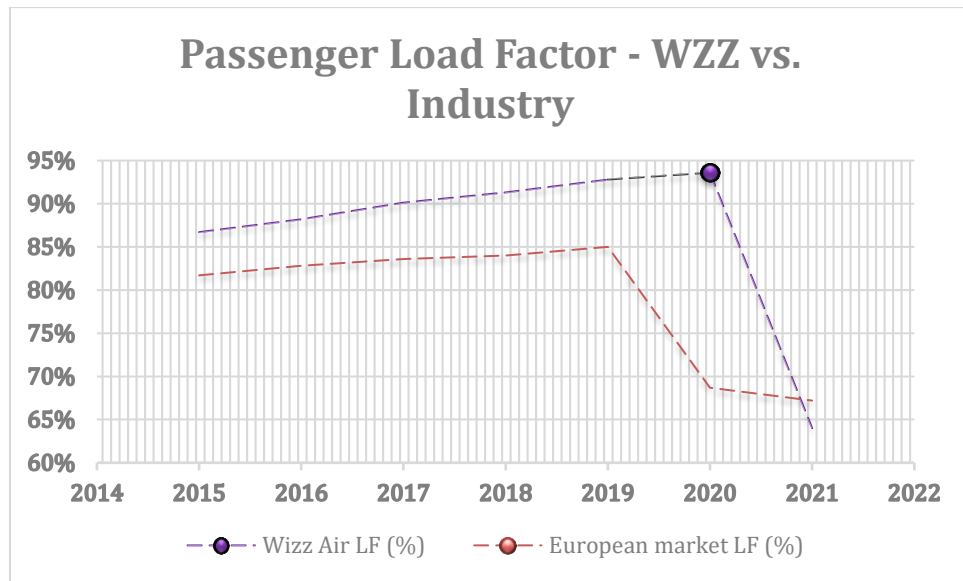


Table 15: Passenger Load Factor comparison between Wizz Air and European market average. Own elaboration. Data source: IATA Annual Reviews, ICAO annual reviews, Statista, based on Wizz Air annual reports (2015-2021)

Given that $PLF = RPK/ASK$, looking at the disaggregated data helps better understanding the company’s above-average performance in the last few years.

In the graph depicted below, data regarding Wizz Air and European industry average in terms of revenue passenger kilometers (RPK) are reported: again, Wizz has better performed than the average in the market in terms of revenue generated by paying passenger and the relative distance flown.

As the data show, again Wizz Air outperforms the industry in terms of revenue generated, peaking in 2018 with a 21.2% growth in comparison to FY17; the highest RPKs have been recorded in 2020, when the company clinched 69.972 billion RPK (again, this is company’s all time highest figure)

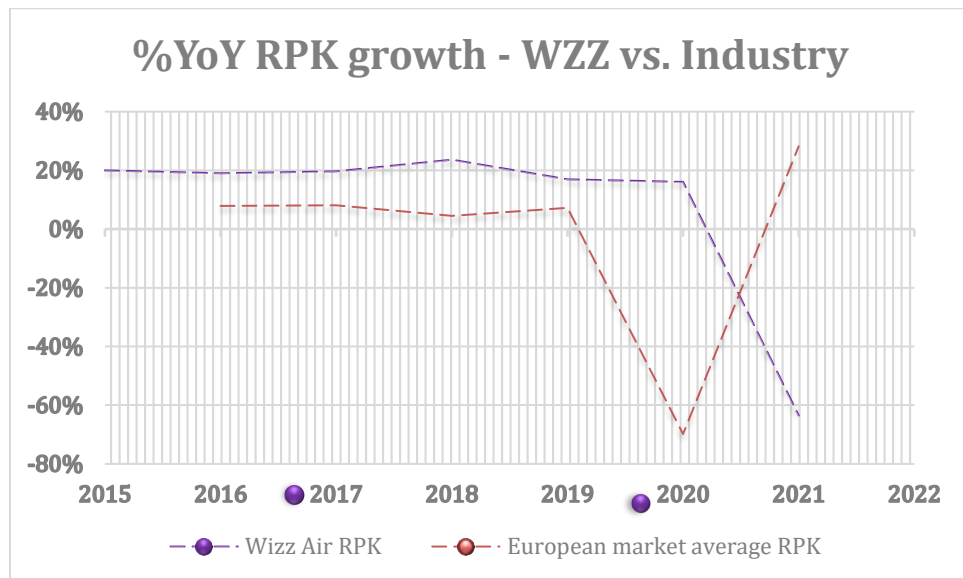


Table 16: Year-on-year revenue-passenger kilometer growth comparison between Wizz Air and European market average. Own elaboration. Data source: IATA Annual Reviews, ICAO annual reviews, Statista, based on Wizz Air annual reports (2015-2021)

According to the airline's last annual review, between FY20 and FY21 average revenue per seat dropped from 64.5€ to 46.4€ (-28,1%) while average revenue per passenger rose from 69.0€ to 72.5€ (+5,2%) and ex-fuel CASK (cost per available seat kilometers) jumped from 0.0227€ to 0.0386€ (+69.8%).

These figures partially explain Wizz Air sudden drop in RPK generation (strictly correlated to the previously mentioned decline in load factor in 2021): in the last year the company suffered unprecedented higher operational costs and it has not been as able as in the previous financial years to extract a comparable average revenue per seat, thus being forced to extract higher revenue from the fewer paying passengers in 2021.

As previously said, the other component of the passenger load factor is available-seat kilometers (ASK): the company's performance in comparison with the EU industry average is showed by the graph below:

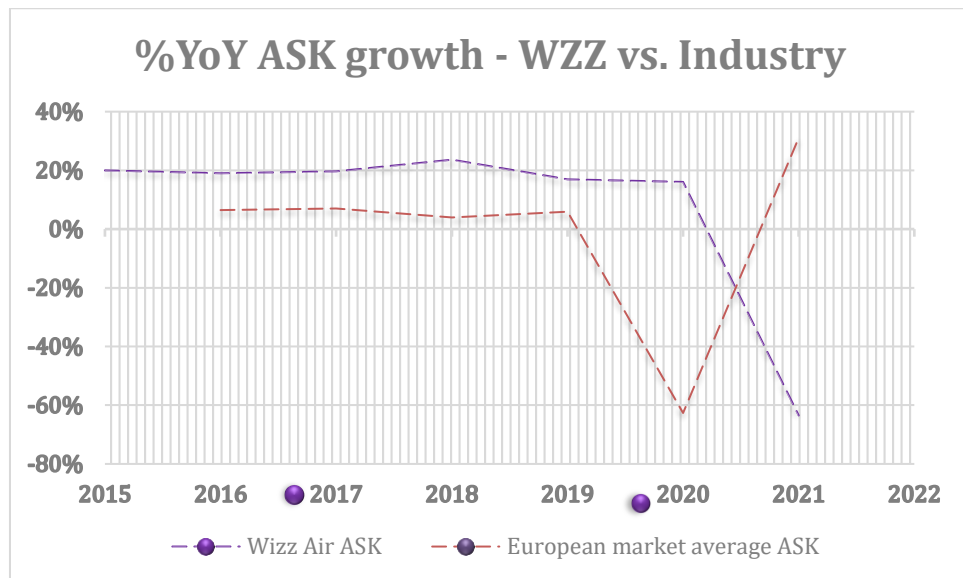


Table 17: Year-on-year available-seat kilometer growth comparison between Wizz Air and European market average. Own elaboration. Data source: IATA Annual Reviews, ICAO annual reviews, Statista, based on Wizz Air annual reports (2015-2021)

As for the RPK growth, Wizz Air constantly grew from 2015 to 2020, averaging a 19,3% annual growth in available-seat kilometer: this fact demonstrates that the airline has been on a path to capacity expansion in the last years, offering its customers more seats to more distant destinations; the latter element will be further discussed in this chapter while analyzing Wizz Air’s route map extension and comparing it with EasyJet’s.

Having looked at the company’s performance and at the industry averages in terms of revenue-passenger kilometers, available-seat kilometers and passenger load factor, it is now worth comparing Wizz Air with its main competitor, which is the low-cost carrier segment.

In the graph depicted below, the competitors are Ryanair, EasyJet, Volotea: the first two are well-known, established market players that pioneered the concept of no-frills service in Europe and are now challenged by Wizz, while Volotea (IATA code: VY) is a smaller Spanish-based low-cost airline, market leader in its home market and present in the South European geographical segment where Wizz Air is currently expanding (above all, the Italian and Spanish markets are being targeted).

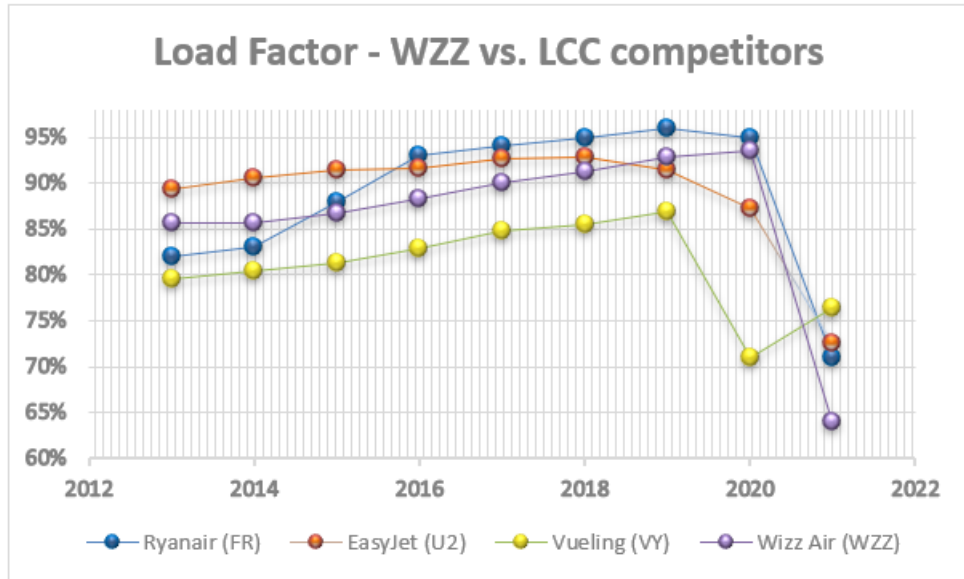


Table 18: Load factor comparison between Wizz Air and Ryanair, EasyJet, Vueling. Own elaboration. Data source: Statista, based on company capacity and traffic statistics (2013-2021).

Data show that all companies suffered majors in 2021 as load factors sunk above the previous years' average: Wizz Air's 64% is the record-low figure, while Vueling performed better than the other airlines, even though it has always bad performed between 2013 and 2020.

Wizz Air outpaced EasyJet in 2018-19 and reached Ryanair's load factor in 2020 (95% vs. 94%).

Through the load factor data, it is possible to infer if the company reached the break even in the last five fiscal years by matching that index with the total cost/total revenue ratio.

Thus, more clearly, the break-even load factor for an airline is the following:

$$\underline{\text{Break-even load factor} = (\text{Total revenue} / \text{total operating costs}) * \text{Load Factor}}$$

FY	2021	2020	2019	2018	2017
<i>Total cost</i>	1267100	2423000	2019400	1645900	1656200
<i>Total revenue</i>	739000	2761300	2319100	1939000	1948000
<i>TC/TR</i>	171%	88%	87%	85%	85%
<i>Wizz Air Load Factor</i>	64,00%	93,60%	92,80%	91,30%	92,60%
<i>Break-even Load Factor</i>	109,74%	82,13%	80,81%	77,50%	78,73%
<i>Break-even</i>	Not achieved	Achieved	Achieved	Achieved	Achieved

Table 19: Break-even load factor calculation for Wizz Air. Own elaboration. Data source: Wizz Air annual reports (2017-2021), Statista based on company capacity and traffic statistics (2017-2021).

Numerical data show that the company’s load factor exceeded the break-even target in every year from 2017 to 2020, with 2021 being the only exception in the period considered: last year, the target load factor would have been 109,74%, which is materially impossible to achieve as LF is a ratio between 0 and 1 (or more easily explained, an aircraft cannot board a number of passengers that exceeds the total number of available seats).

Despite the drop of total operational costs between 2020 and 20201, the ratio between total costs and revenues reached 171%, making the break-even target impossible to reach for FY2021.

2.4. EasyJet – Company overview

Alongside Ryanair and Wizz Air, EasyJet (IATA Code: U2 – ICAO Code EZY) features in Europe’s low cost big three, being a LCC point-to-point airline: throughout the years, the English company leveraged on its operational efficiency

and no-frills service that granted and leading positions both in primary airports and secondary airports while offering its customers deliver low fares.

EasyJet is one of the largest airlines in the world, with more than 300 Airbus A319 and A320 family aircraft, operating around 900 routes across 34 countries in Europe and Northern Africa; the company's main hub is London Luton.

As shown by Table 10 in paragraph 2.1., EasyJet is still among world's top ten airlines in terms of daily flights operated and its core country markets as of December 2021 have been United Kingdom (9.695 daily flight departures), France (5.609 daily flight departures), Italy (3.638 daily flight departures) and Switzerland (2.797 daily flight departures).

In terms of flight departures every day, EasyJet leads in the United Kingdom (almost evenly matched with Ryanair that average 9.008 daily departures) and in France; it is instead second largest in Italy, Spain, Germany, where Ryanair comfortably holds the top spot. (Anker Report based on Cirium Data and Analytics, 2021).

Company aviation KPIs – Load factor, RPK, ASK

EasyJet's performance from 2015 to 2021 will be now analyzed as previously done for Wizz Air: thus, performance in terms of available-seat kilometers, revenue-seat kilometers and passenger load factor is showed below.

Again, the analysis starts with the load factor since it represents a critical figure for every airline, and especially low-cost carriers.

Even though EasyJet reached a lower load factor if compared to Ryanair and Wizz Air between 2018 and 2020, it performed better than the industry average every year since 2014, thus showing operational capabilities.

EasyJet has still to reach pre-pandemic load factor, having further worsened its performance in 2021.

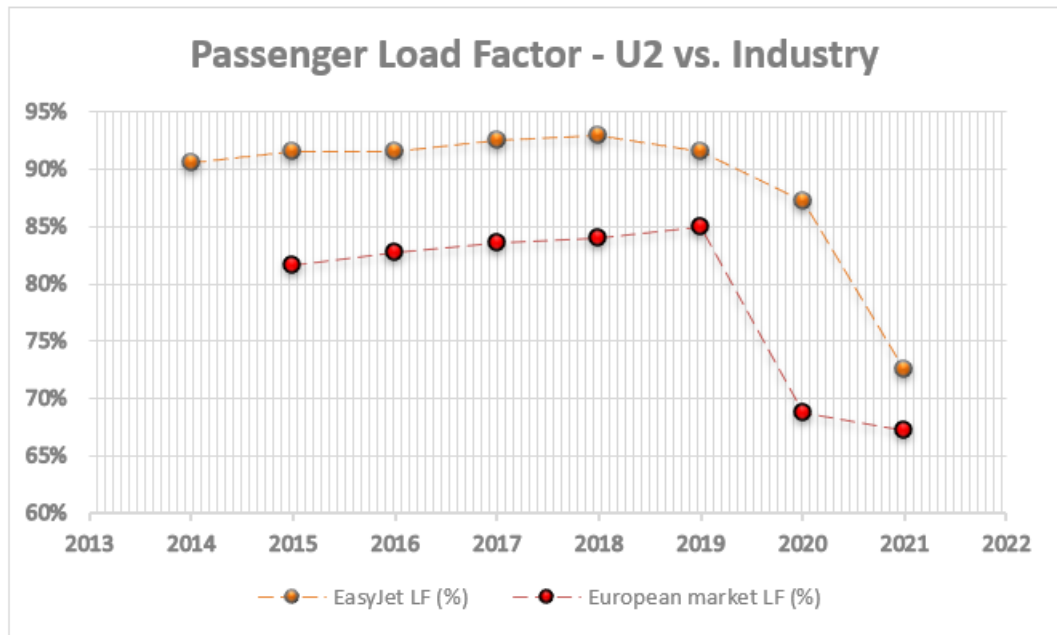


Table 19: Load factor comparison between EasyJet and the European market average. Own elaboration. Data source: Statista, based on company capacity and traffic statistics (2014-2021).

As it has been done for Wizz Air in the previous subparagraph, we can now analyze EasyJet's performance between 2017 and 2021 in terms of costs and revenue so as to better understand the real meaning of the load factor.

Unlike Wizz Air, EasyJet seems to have been impacted more by the pandemic-related passenger traffic drop: the English airline missed its load factor target both in 2020 and 2021, and it must be underlined that in 2020 the break-even load factor could be technically reached as it was equal to 94,9%, while the actual one was 87,2%.

In 2021, the target load factor for reaching break-even was 105%, meaning that the ratio between costs and revenues was so high that the break-even load factor was not possible to achieve in any case, as $0 \leq \text{load factor} \leq 1$.

FY	2021	2020	2019	2018	2017
Total cost	2121000	3276000	5335000	4705000	4639000
Total revenue	1458000	3009000	6385000	5898000	5047000
TC/TR	145%	109%	84%	80%	92%
EasyJet Load Factor	72,50%	87,20%	91,50%	92,90%	92,60%
Break-even Load Factor	105,47%	94,94%	76,45%	74,11%	85,11%
Break-even	Not achieved	Not achieved	Achieved	Achieved	Achieved

Table 20: Break-even load factor calculation for EasyJet. Own elaboration. Data source: EasyJet annual reports (2017-2021), Statista based on company capacity and traffic statistics (2017-2021)

Differently from the load factor, the year-on-year available-seat kilometers growth has been much more aligned with the industry average; in 2019 the highest percentual growth has been achieved as the company increased its ASKs by 11,03% against an industry average of 5,92%.

Available-seat kilometers growth has been negative both in 2020 and 2021, -42,6% and -51,8% respectively.

The analysis of the RPK should help understanding better these data.

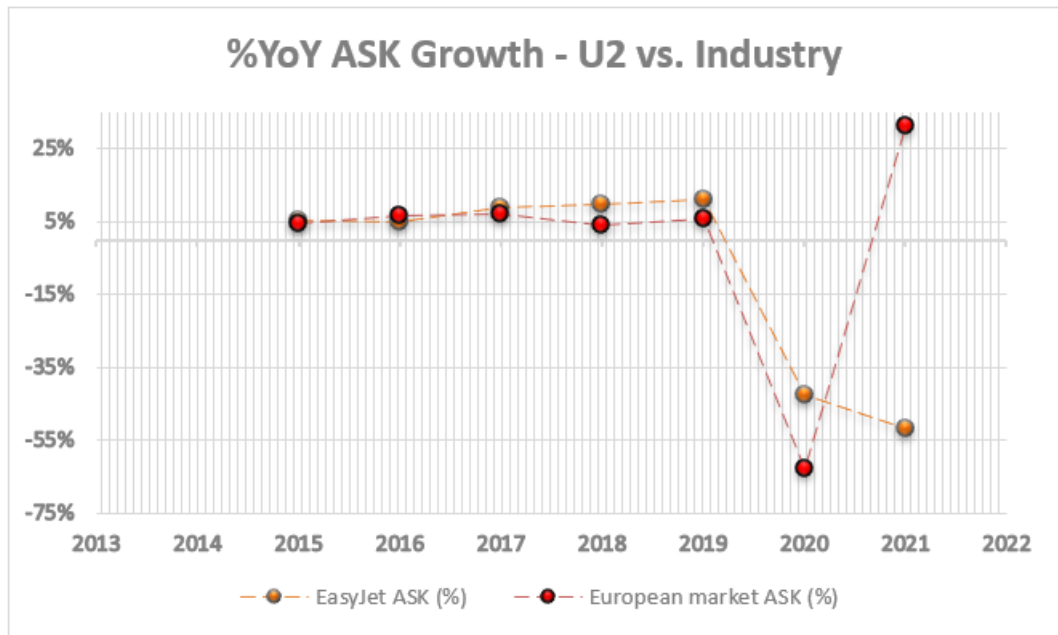


Table 21: Year-on-year available-seat kilometers comparison between EasyJet and the European market average. Own elaboration. Data source: Statista, based on company capacity and traffic statistics (2014-2021).

In this case as well, the RPK annual growth dynamic follows closely the industry average: EasyJet's RPK growth on an annual basis has been below the average in 2015 and 2016, outperforming from 2017 on.

However, 2021 proved to be a nightmare fiscal year indeed as the year-on-year RPK growth has been -59,95% compared to 2020, while the industry bounced back by growing around 29%.

Thus, despite a sharp reduction in available seats in 2021, not only the company hasn't returned to a growth, but its performance in terms of revenue generation has been worse than 2020 (-42,63% in RPK growth vs. 2019).

Reducing the number of overall flights (and consequently the number of available seats) has not been enough for generating a high RPK/ASK ratio, meaning that the load factor sank to 72,5%.

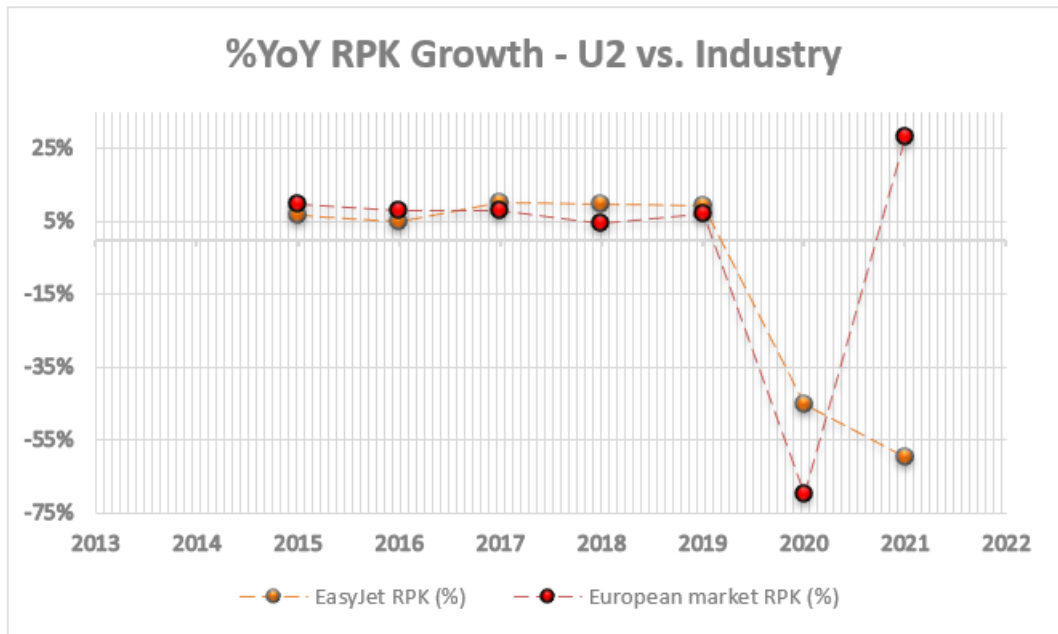


Table 22: Year-on-year revenue-seat kilometers comparison between EasyJet and the European market average. Own elaboration. Data source: Statista, based on company capacity and traffic statistics (2014-2021).

In 2022, EasyJet’s ancillary revenue accounted for 46% of total revenues (458 million euros): although this revenue stream is significant in a low-cost business model, the graph shows that the growth of ancillary revenue’s share of total revenues is not a sufficient condition for an overall revenue growth if passenger revenue drop as it happened in 2020 and 2021.

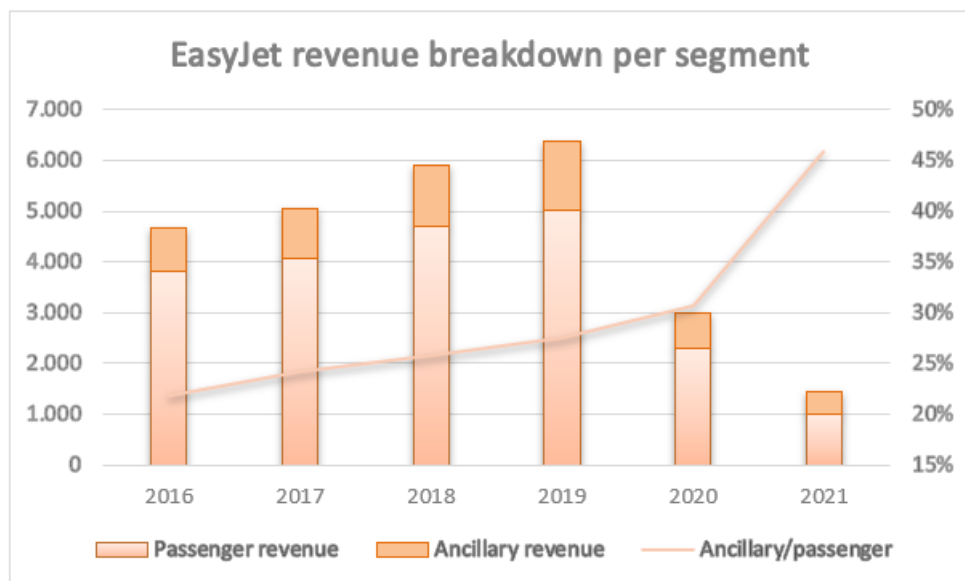


Table 23: EasyJet revenue breakdown per segment. Data source: Statista, based on company financial reports (2016-2021).

2.5. Wizz Air and EasyJet – financial comparison

After having seen the companies' operational performance by looking at the key aviation performance indicators: both of the company struggled in the last nightmare two-year period but are now transitioning to pre-pandemic normality as passengers are increasingly returning to travelling despite lingering travel limitations in the different areas of Europe.

Both Wizz Air and EasyJet are now gearing up for the expected booking increase awaited for summer 2022, that could help compensate losses suffered in 2021.

The companies have been under the rating agencies' watch in the last months following EasyJet's shareholder right issue in September 2021 (concurrent to the airline's rejected full takeover approach from Wizz Air) and Wizz's strong summer season in 2021 that fueled its recovery.

In September, Moody's stated that "easyJet remains relatively strongly placed to benefit from a recovery in air travel given its scale, broad network, low-cost positioning, strong positions at primary airports, cost advantages over legacy carrier competitors and focus on short haul leisure travel".

This description of EasyJet's short-term outlook fully reflects the airline's business model's strong points mentioned earlier in this chapter and that can help the airline recover from the last year's negative performances.

After the £1.2bn fully underwritten rights issue, the company had reached around £4.4bn in total cash and short term cash equivalents, securing the company's finances from further compressions in international travel and passenger traffic limitations. (Moody's, 2021).

Regarding Wizz Air, Fitch saw its solid recovery in summer 2021 as a proxy for a faster, above-average financial and operational recovery if all restrictions are lifted and no major pandemic-related setbacks arise in the upcoming twelve months.

More specifically, Fitch sees Wizz Air as better prepared to benefit from a demand upswing starting from summer 2022, mainly due to its “strong balance sheet and liquidity, low-cost base and a low share of business customers in its customer base as demand for business travel is still subdued”; it is also underlined that the airline's route network is almost entirely composed by short-haul flights, that are expected to recover quicker than medium- and long-haul connections.

After the operational company review carried out earlier in this chapter, a financial comparison between Wizz Air and EasyJet will be done in this subchapter.

Methodology

The respective comprehensive financial performances will be compared using the Harmonic Index (HI) proposed by Teker et al. (2016), aimed at measuring four performance areas: profitability, operating, liquidity, efficiency.

Performance areas	Indicator	Measurement
<i>Profitability</i>	P1: Return on Asset (ROA) P2: Return on Equity (ROE) P3: Net Profit Margin (NPM)	Net Income / Assets Net Income / Equity Net income / Revenues
<i>Operating</i>	O1: Avg Days for Receivables O2: Avg Days for Inventories O3: Avg Days for Payables	Revenues / (Avg. Receivables/360) COGS / (Avg. Inventories/360) Purchases / (Avg. Payables/360)
<i>Liquidity</i>	L1: Quick Ratio L2: Debt Ratio	(Curr. Assets-Inventories)/Curr.Liabilities Long Term Debt / Equity
<i>Efficiency</i>	R1: Revenue per Employee R2: Revenue per Aircraft	Revenues / Number of Employees Revenues / Number of Aircrafts

Source: Teker, S., Teker, D., & Güner, A. (2016). *Financial performance of top 20 airlines. Procedia-Social and behavioral sciences*, 235, 603-610.

The Harmonic Index can be calculated in the following way:

$$\text{Harmonic Index (HI)} = f(\text{profitability, operating, liquidity, efficiency}) \quad (1)$$

$$HI = w_{P1}P1 + w_{P2}P2 + w_{P3}P3 + w_{O1}O1 + w_{O2}O2 + w_{O3}O3 + w_{L1}L1 + w_{L2}L2 + w_{R1}R1 + w_{R2}R2 \quad (2)$$

$$HI = k_1P + k_2O + k_3L + k_4R \quad (3)$$

Assuming that all weights are considered equal, the weights and indicators are the following:

- w_{Pi} 's are the weights for profitability indicators;
- Pi 's are the profitability indicators;
- w_{Oi} 's are the weights for operating indicators;
- Oi 's are the operating indicators;
- w_{Li} 's are the weights for liquidity indicators;
- Li 's are the liquidity indicators;
- w_{Ri} 's are the weights for efficiency indicators;
- Ri 's are the efficiency indicators;
- ki 's are weights for the weighted indicators.

Using EasyJet's main financial and operating ratios, the Harmonic Index has been computed for the last six fiscal years: the overall better financial performance has been achieved in 2019, when the company maximized its revenue/aircraft ratio, generating around €19.3 million per aircraft; return on equity and revenue per employees have been the second best achieved in the period considered.

The average days in inventory ratio equals zero every year as EasyJet, unlike Wizz Air, did not record any accounting item as inventory in the last six years.

		2016	2017	2018	2019	2020	2021
<i>PROFITABILITY</i>	<i>ROA</i>	7.76%	5.11%	5.12%	4.28%	-12.73%	-8.78%
	<i>ROE</i>	15.74%	10.89%	11.07%	11.69%	-56.82%	-32.51%
	<i>Profit Margin</i>	9.15%	6.04%	6.07%	5.47%	-35.86%	-58.85%
<i>OPERATING</i>	<i>Avg. Receivables Days</i>	4.50	5.35	6.25	5.43	5.88	7.76
	<i>Avg. Payables Days</i>	9.94	12.92	18.24	20.60	31.91	39.51
	<i>Avg. Inventories Days</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>LIQUIDITY</i>	<i>Quick Ratio</i>	0.92	1.04	0.97	0.79	0.67	1.56
	<i>Debt Ratio</i>	0.24	0.34	0.30	0.56	1.17	1.50
<i>EFFICIENCY</i>	<i>Revenue/Employees</i>	0.43	0.41	0.41	0.41	0.21	0.11
	<i>Revenue/Aircraft</i>	18.17	18.09	18.72	19.29	8.80	4.73
		14.6104	15.8741	18.2309	19.0506	17.3658	18.8635

Table 24: Harmonic Index (HI) calculation for EasyJet (2016-2021) – Own elaboration. Data source: Bloomberg Terminal

The chart below depicts the financial scenario for Wizz Air, which recorded the highest Harmonic Index in 2020, reaching 32.12.

The compared financial performance between Wizz and EasyJet sees the Hungarian ultra-low cost company as better performing under the period selected.

Wizz Air's most relevant indexes are efficiency indexes (improved from 2017 to 2020).

The financial impact suffered in 2021 reverted the scenario concerning the operating ratios: the company collected its account receivables within 8 days and doubled the period for paying its short-term obligations (29 days in 2021 vs. 14.5 in 2020.)

		2016	2017	2018	2019	2020	2021
<i>PROFITABILITY</i>	<i>ROA</i>	16.40%	16.25%	14.33%	4.04%	6.77%	-12.60%
	<i>ROE</i>	33.59%	29.98%	25.07%	10.05%	23.03%	-53.40%
	<i>Profit Margin</i>	15.30%	14.55%	14.15%	4.44%	11.66%	-78.88%
<i>OPERATING</i>	<i>Avg. Receivables Days</i>	20.83	16.45	16.20	13.75	36.30	8.19
	<i>Avg. Inventories days</i>	4.05	5.86	5.15	4.90	7.66	17.36
	<i>Avg. Payables Days</i>	13.00	16.30	14.64	12.38	14.50	29.15
<i>LIQUIDITY</i>	<i>Quick Ratio</i>	1.57	1.67	1.61	1.26	1.05	1.16
	<i>Debt Ratio</i>	0.07	0.05	0.03	0.03	1.27	1.38
<i>EFFICIENCY</i>	<i>Revenue/Employees</i>	0.60	0.52	0.53	0.54	0.62	0.19
	<i>Revenue/Aircraft</i>	21.33	19.89	20.85	20.71	22.82	5.39
		24.350	23.8474	23.4082	21.4572	32.1222	21.3853

Table 25: Harmonic Index (HI) calculation for EasyJet (2016-2021) – Own elaboration. Data source: Bloomberg Terminal

2.6. Network complementarity between EasyJet and Wizz Air

As broadly described both in Chapter 1 and 2, complementarity between two route networks is an essential condition for a cross-border merger to succeed and to be approved by antitrust authorities: if the two airlines operate on a high number of common routes, the combined network must be rationalized by terminating common connections and the deal risks to be halted or limited by slot surrendering (e.g., in the Air France-KLM case for the connections between Paris and Amsterdam) frequency freeze, price reduction mechanisms.

Given the fact that the merger between Wizz Air and EasyJet did not take place since the English side rejected the proposal, it is not possible yet to evaluate in detail what a conjoint network would effectively be: however, it is also true that some considerations and empirical assessment can be anyway done.

First, glancing at the two networks gives a preliminary picture of the outcome of a hypothetical combination of the two sets of airline routes.

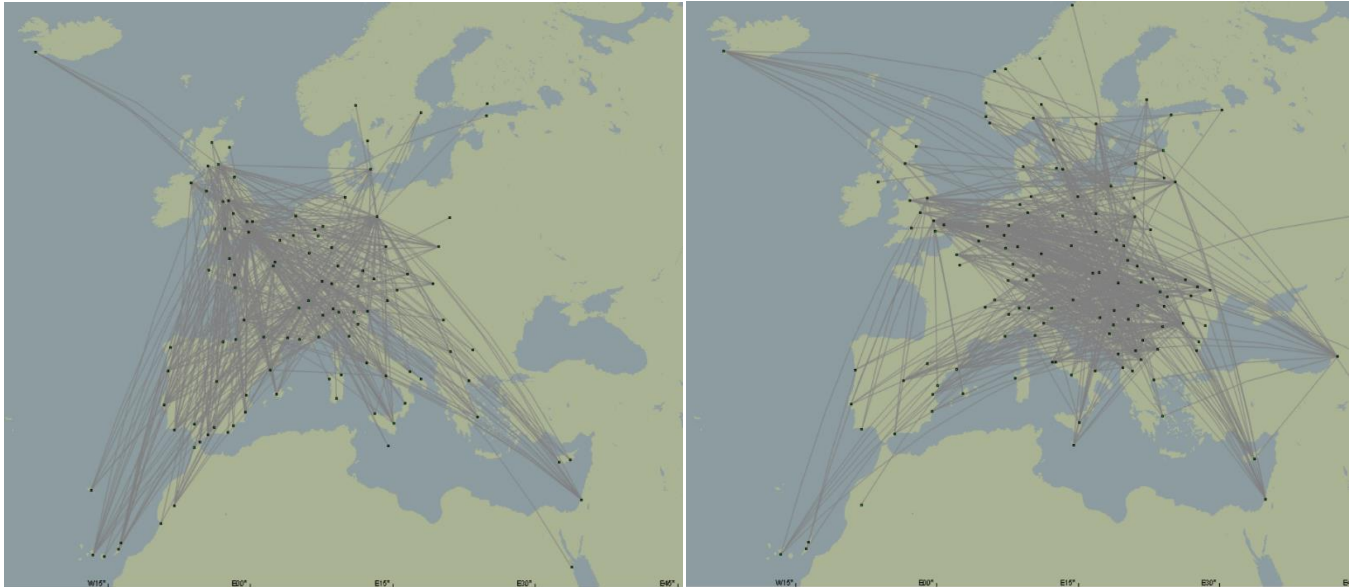


Table 26: EasyJet (left) and Wizz Air route maps (March 2022) – Source: AirlineRouteMapper

As shown by the two maps, EasyJet’s destinations broadly cover Western Europe as the company is strongly present in United Kingdom, Italy, Spain, France, Germany; on the other side Wizz Air is much less operative in the above-mentioned countries as its business mainly focus on Eastern Europe, operating around 440 routes from Poland, Romania, Hungary and Bulgaria only (Wizz Air Annual Report 2021). Thus, a strong complementarity seems a fact just by looking at the destination maps: however, an easy quantitative analysis can still be performed to understand to which extent the two route networks complement each other (or overlap, on the other side).

Methodology

The analysis has been carried out comparing routes operated until March 2022 by EasyJet (549 routes) and Wizz Air (552 routes) according to Airline Route Mapper. The lists of routes have been exported to Excel and duplicated for both airlines, inverting departure and arrival airports in the two columns, as the portion of the dataset showed below illustrates for all flights from Amsterdam operated by EasyJet.

A specular dataset (right) has been thus used, so that a possible common routes between the two companies is found without regards of the order in which the airports are listed (hence, if Wizz Air operates the route between Amsterdam and Màlaga (AMS-AGP, the first data entry of the list), the route overlap between the companies can be found even if in Wizz’s dataset the route is recorded as AGP-AMS, which represents a specular data entry for the very same connection offered).

Airline (IATA/ICAO)	Airport pair	Airline (IATA/ICAO)	Airport pair
U2/EZY	AMS AGP	U2/EZY	AGP AMS
U2/EZY	AMS ALC	U2/EZY	ALC AMS
U2/EZY	AMS BRS	U2/EZY	BRS AMS
U2/EZY	AMS BUD	U2/EZY	BUD AMS
U2/EZY	AMS EDI	U2/EZY	EDI AMS
U2/EZY	AMS FCO	U2/EZY	FCO AMS
U2/EZY	AMS GLA	U2/EZY	GLA AMS
U2/EZY	AMS LGW	U2/EZY	LGW AMS
U2/EZY	AMS LIN	U2/EZY	LIN AMS
U2/EZY	AMS LPL	U2/EZY	LPL AMS
U2/EZY	AMS LTN	U2/EZY	LTN AMS
U2/EZY	AMS MAN	U2/EZY	MAN AMS
U2/EZY	AMS MXP	U2/EZY	MXP AMS
U2/EZY	AMS NAP	U2/EZY	NAP AMS
U2/EZY	AMS PRG	U2/EZY	PRG AMS
U2/EZY	AMS STN	U2/EZY	STN AMS
U2/EZY	AMS BER	U2/EZY	BER AMS
U2/EZY	AMS TLV	U2/EZY	TLV AMS
U2/EZY	AMS VCE	U2/EZY	VCE AMS

Table 27: EasyJet flights from Amsterdam (March 2022) – Own elaboration. Source: AirlineRouteMapper

As the two airport codes compose a pair, the values have been merged using the function =CONCAT, so as to render a single string; the operation has been replicated for EasyJet’s second dataset and Wizz Air’s two datasets, as it is shown below by a portion of the newly-created datasets.

Airline (IATA/ICAO)	Airport pair	Airline (IATA/ICAO)	Airport pair
U2/EZY	AMSAGP AGPAMS	W6/WZZ	BCNCRA CRABCN
U2/EZY	AMSALC ALCAMS	W6/WZZ	BCNCLJ CLJBCN
U2/EZY	AMSBRB BRSAMS	W6/WZZ	BCNGDN GDNBCN
U2/EZY	AMSBUD BUDAMS	W6/WZZ	BCNKIV KIVBCN
U2/EZY	AMSEDI EDIAMS	W6/WZZ	BCNKTW KTWBCN
U2/EZY	AMSFCO FCOAMS	W6/WZZ	BCNKUT KUTBCN
U2/EZY	AMSGLA GLAAMS	W6/WZZ	BCNOTP OTPBCN
U2/EZY	AMSLGW LGWAMS	W6/WZZ	BCNSKP SKPBCN
U2/EZY	AMSLIN LINAMS	W6/WZZ	BCNSOF SOFBCN
U2/EZY	AMSLPL LPLAMS	W6/WZZ	BCNTSR TSRBCN
U2/EZY	AMSLTN LTNAMS	W6/WZZ	BCNRAW WAWBCN

Table 28: EasyJet flights from Amsterdam and Wizz Air flights from Barcelona (March 2022) – Own elaboration. Source: AirlineRouteMapper

In order to find a common text value between the datasets (and consequentially, a route operated by both airlines), the two pair of columns have been compared by using a Visual Basic macro.

In the Visual Basic editor, the following code has been inputted:

```
Sub Find_Matches()
```

```
Dim CompareRange As Variant, x As Variant, y As Variant
```

```
Set CompareRange = Range("I2:J550")
```

```
For Each x In Selection
```

```
For Each y In CompareRange
```

```
If x = y Then x.Offset(0, 1) = x
```

```
Next y
```

```
Next x
```

```
End Sub
```


Through the calculation, 15 out of 549 possible common routes have been found: among them, 9 are routes from London Luton (LTN) and 3 from Budapest (BUD). The remaining three common routes are Belgrade-Basel (BEG-BSL), Basel-Pristina (BSL-PRN) and Krakow-London Gatwick (KRK-LGW).

```

Common airport
pairs
BEGBSL
BSLPRN
BUDBSL
BUDLGW
BUDBER
KRKLGW
LTNAGP
LTNCTA
LTNFAO
LTNKEF
LTNKRK
LTNLIS
LTNMXF
LTNPMI
LTNTLV

```

Table 29: Common routes between EasyJet and Wizz Air (March 2022) – Own elaboration. Source: AirlineRouteMapper

Out of all the routes considered for the two airlines, the percentual of route overlap is 2,73%: it is an extremely low percentage, that could of course increase following a progressive expansion of the respective destination lists and the addition of other high-season destinations where the companies may compete against each other. Nevertheless, in case of a M&A operation the two companies could count on a strong complementarity that can generate superior competitive advantage, if combined to potential staff and fleet synergies (both of them operate Airbus A320 and A321 family aircrafts, and this could represent a primary source of saving in terms of maintenance, higher contractual power for future order from Airbus, fleet management and rationalization).

2.7. Similarities and differences between the Air France-KLM merger and the proposed EasyJet-Wizz Air merger

While the Air France-KLM holding became a leading group both in European and global aviation still being the largest full-service carrier in Europe in terms of combined average daily departure as of March 2022, EasyJet and Wizz Air did not merge (yet) as the English low-cost giant refused Wizz's all-share offer and doubled down on its path to organic growth by raising around \$1.7bn from shareholders (Reuters), focusing on its recovery from traffic loss and planning ahead of the upcoming summer.

The market did not roar its approval at the time, having EasyJet (EZY.LN) lost around 25% of its share price value between September 9th and 13th as showed by Bloomberg data, but the board unanimously rejected the bid and pointed at different management styles and low-premium offered as some of the reasons of their choice. The two case studies taken into analysis in this chapter obviously differ from each other because of the sharp differences that characterize the four companies considered and because of the different strategic scenarios.

That being said, several common points can be found between these two turning points of the recent European aviation history.

The first similarity is definitely related to the negative exogeneous factors that reshaped the industry in the beginning of the 00s and the 20s: above all factors, it is worth mentioning first the industry's black swans, the 9/11 terror attacks and the ongoing COVID-19 pandemic.

These two unexpected and painful historical events drastically changed the industry as the consequential drops in passenger demand and spike in operational costs impacted every player in every segment, and this has been true for both Air France-KLM and EasyJet-Wizz Air despite the difference passing among the periods and the companies examined.

Another critical common factor is the sudden rise in oil price and the reduced stability in energy markets: it has been the reality straight after the 9/11 attacks and

after the invasion of Iraq by the U.S.-led military coalition in 2003, and it has become harsh reality for airline operators in the first half of 2022 as well.

But the most notable similarity is the strong network complementarity in both of the two case studies: Air France and KLM joined forces to create a well-composed, globally extended long-haul network that accounted for the majority of the holding's revenues at the time, while EasyJet and Wizz Air are complementary in Western and Eastern Europe respectively.

This is among the key elements behind the Hungarian airline's takeover proposal, as Wizz is indisputably the leading airline in Central and Eastern Europe: last year's market share has been 45,9% considering the low cost segment only, and 20,9% taking into account all airlines present in CEE (Wizz Air annual report 2021); on the opposite, EasyJet is a strong player in the continent's largest national markets such as UK, Spain and Italy, and this could be the merger's main synergy and source of competitive advantage for the years to come in the post-pandemic scenario.

This strong market power exerted in the respective geographical segments is another common point of the two case studies: Air France and KLM were leaders in their respective home markets and in the closest markets, as well as EasyJet and Wizz Air are now leading players in their home countries and in the nearby geographical area. The last similarity to be listed is the commonality of fleet, since in both cases the companies operated an Airbus fleet: AF-KLM managed to achieve high synergies by combining medium and long-haul Boeing aircrafts (with a lower number of Airbus, mainly Air France's Airbus A380s).

A hypothetical cross-border merger between EasyJet and Wizz Air would probably see even more relevant synergies as their fleets are entirely composed by Airbus aircrafts belonging to only two family aircrafts, A320 and A321.

Hence, the case studies present several analogies both at firm and industry level: anyhow, some differences should be highlighted.

The clearest difference is the business model, as EasyJet and Wizz Air are low-cost companies unlike AF-KLM, even though it can also be seen as another similarity since the two airlines are similar to one another in terms of business model.

However, the most relevant divide is related to the high differences between EasyJet and Wizz Air when it comes to corporate culture and cost base: these discrepancies were not present in the Air France-KLM case.

The last difference regards the slots held by the two companies: while both Air France and KLM still hold primary slots only, EasyJet holds primary/secondary slots and Wizz Air holds secondary/tertiary slots: this is an important divide and poses uncertainty on the effective outcome of a possible merger, even though it can offer the opportunity of differentiating the service offered in a city pair (e.g., the two airlines could serve a certain city by flying to a primary and a secondary airports, thus indirectly segmenting time-sensitive and budget-sensitive customers).

Chapter 3 – Analysis and discussion

3.1. Discussion

This Master's Thesis analyzed cross-border mergers and acquisitions as an inorganic growth strategy in the European airline industry: the first chapter addressed this economic and strategic phenomenon from a theoretical perspective, aiming to outline strong points and drawbacks of mergers in the civil airline industry; in the second chapter, the Air France and KLM merger case, Europe's most important international airline merger to date, and the latest rumored cross-border merger case in the industry between EasyJet and Wizz Air have been compared, with the aim of finding similarities and analogies between the two cases and with the ultimate goals of pointing out the success factors of extending an air carrier's scope of operations abroad through an international M&A operation in the airline sector and highlighting opportunities and threats of this growth strategy in the European scenario.

In this third and last chapter the insights of this Master Thesis will be summarized, limitations of the research will be outlined and new possible directions of future research on the topic of airline mergers and acquisitions will be provided.

Although there is no exact formula for striking the perfect airline M&A as the variables to be considered are countless, some features are more critical than other, and their relevance cannot be overlooked; they are listed below and will be discussed:

- Network complementarity (and reduced network overlap)
- Fleet compatibility
- Reliance on a two-hub strategy

As the Air France-KLM proved and the EasyJet-Wizz Air deal hinted alongside with the theoretical findings, the first one is network complementarity.

It is important from a strategic standpoint and in terms of antitrust compliance, which are equally crucial for a M&A to meet its goals: as demonstrated by IAG's proposed acquisition of Air Europa (Case M. 9637 – IAG/Air Europa), aiming to gain substantial market dominance within a certain national market or a city pair (thus, counting more on network overlap rather than on complementarity) can be indeed beneficial for the merging entities by it poses the serious risk for the deal to be hampered by competition authorities.

In the above-mentioned case, remedies proposed by IAG were not sufficient to address the European Commission's competition concern and forced the airline to withdraw from the acquisition. (European Commission STATEMENT/21/6942, 2021).

On the contrary, the high degree of complementarity of two networks hedges this risk: Air France and KLM's complementary set of destination across and outside Europe has been crucial for receiving an approval subject to minor conditions and remedies (almost entirely affecting the short-haul connections, that represented a minor part of the Group's stream of revenue) and simultaneously benefiting from one another's network, allowing the newborn merged company to extend the scope of its operations and achieve revenue synergies.

Hence, network/route complementarity (opposed to network/route overlap) is indeed the essential condition from a strategic, financial, and legal perspective: it offers customers an increased number of destinations and of possible combinations between the two companies (thus, offering higher customer value), but it also sets the stage of a full approval, or for an approval with a reduced number of limitations. Another factor of success has proven to be the fleet compatibility, which has generated cost synergies in the Air France-KLM merger and is among the key aspects in the EasyJet-Wizz Air case, since both airlines utilize Airbus aircrafts belonging to the very same families and both are to receive a raft of brand new fuel-efficient A320 and A321neo in the upcoming years.

Having common aircraft models immediately generates pilot and engineering efficiencies as it happened for Air France-KLM, while composing a heterogeneous fleet can be source of uncertainty in financial and operational terms.

Thus, even though having a certain degree of fleet compatibility is a success factor, there is a caveat worth mentioning: fleet age difference between the two airlines shouldn't be overlooked when combining the fleets as the older airplanes will have to be progressively replaced.

This has not been mentioned in Air France and KLM's merger since it has not been a problem, but this does not mean it can't happen in future cross-border airline merger with overall positive features such as EasyJet-Wizz Air: despite the fact that Wizz's fleet is younger on average, the gap is not huge (4.9 years vs. 9.0 years), the average figure can hide much bigger variances for specific groups of aircraft within a fleet, and this should be carefully considered at the time of merger as the aircraft progressive replacement is planned years ahead.

Another critical success factor for the merging companies is the reliance on two dominant hubs: Air France and KLM did leverage on this to project their market power in their respective home markets and geographical segments, serving northern Europe from Amsterdam AMS and southern Europe from Paris CDG, net of main destinations served by both airports and airlines.

However, the underlying condition for this to become reality is the implementation of a hub-and-spoke strategy, which implies that an airline's multiple destinations are connected with a single specific airport representing the airline's operational base (e.g., London Heathrow for British Airways, Moscow Sheremetyevo for Aeroflot, Paris Charles de Gaulle for Air France).

Relying on two hubs is probably not possible for every potential international merger then, given the fact that low-cost airlines notoriously operate point-to-point transportation models, where the service offered to the customer is just the connection between a city pair, without transporting the passenger to a central hub. This does not automatically imply that a merger of equals between low-cost airline would therefore underperform: instead, this represents an argument in favor of the

merger as the two budget airlines could offer their customers an increased set of point-to-point destinations that prior to the merger was not possible to offer in the short-run (or in economic terms, pursuing an organic growth strategy for a low-cost airline requires progressively adding single routes to the destination without the support of a dominant airport hub in terms of passenger traffic; instead, pursuing an inorganic strategy such as an M&A dramatically extends both airlines' geographical scope of operations within a limited, shorter timespan).

Cross-border mergers that are characterized by those factors discussed above (network complementarity, fleet compatibility, capacity of relying on two leading airline hubs) could benefit from the following advantages:

- effective expansion in foreign market where the airlines were not present
- increase of market share in markets where the companies already compete
- generation of cost and revenue synergies
- reduction or elimination of competition

The first advantage represents the first argument for choosing M&A as an international growth strategy for airline companies: if the combined network is mainly complementary and it does not overlap to a huge degree, a cross-border merger operation is a unique opportunity to rapidly expand in other markets where the expansion can be more difficult due to fierce competition or limited number of valuable slots available for certain hubs or routes, and more specifically for low-cost companies, it also helps fill gaps in the short-haul network.

This ultimately translates into one of the main arguments for choosing a merger operation, that is the increased market share and revenue through a proper coordination of combined schedules and destinations; increased market power in given routes or markets would also allow the merged airline to apply higher fares, thus generating higher revenues (even if it must be remembered that this dynamic can be limited by competition authorities).

Another factor in favor of international airline mergers in the is the level of cost synergies that a successful integration can generate: it does not involve just

operational harmonization related to fleet planning and procurement, but also major savings can be achieved in areas such as engineering, maintenance, pricing, marketing.

If this is valid for airline merger in general, it is more relevant for European airlines that burden high cost structures on average.

In conclusion, the last argument is a pure strategic advantage: it has been said that merging gives the possibility to extend the route network and consequentially increase revenues, but another important effect is the reduction or elimination of competition.

This aspect is twofold: on one hand, the merger creates cooperation between two airlines that had been competing against each other in a given route, hub or market, allowing them to compete against other players in that route, hub or market (e.g., both Wizz Air and EasyJet compete for the Italian market at Milan MXP, while they could challenge Ryanair at Milan MXP and Milan BGY if they were a united entity); on the other hand, acquiring or merging with another airline prevents the competitors from acquiring the targeted airline and divert the relative passenger traffic to their hub (e.g., since KLM sought an agreement with Alitalia and British Airways, for Air France striking a deal with the Dutch flag carrier also meant to prevent BA or Alitalia acquiring KLM at a later stage, since this could have meant having to compete against a bigger airline in the near future).

3.2. Limitations

Despite the contribution of this study to the progress of the knowledge of airline M&A, some limitations of the research must be considered.

The first limitation relates to data collection: while data related to financial statements, key financial ratios, revenue and cost synergies are public and available, more detailed strategic-related data concerning up-to-date market shares, airports served, passenger traffic forecasts: this information do exist, but it is not always disclosed, or it is available for industry practitioners only. (e.g., industry-specific

database like CAPA – Centre for Aviation, OAG Schedules Analyser, Cirium Data Analytics)

These data have been used only when they have been provided by secondary sources.

Another major limitation has been the lack of previous research and studies on airline mergers and acquisition, both with respect to the European scenario and the strategic fit of two potential merging entities; on the contrary, research studies with a more financial approach are available.

The almost total absence of studies on the European airline industry has been a limitation as the majority of the researches focus on deals that took place in the United States, thus lacking the cross-border component and being less useful to analyse in depth and understand the dynamics underlying the European industry which still trails in terms of level of concentration, remains less prone to foster deals of sizeable dimensions (if compared with mergers in the United States) and where the regulatory component represents indeed a main challenge for merging airlines. For the mentioned reasons, this study could have been more specific and detailed both in qualitative and quantitative terms.

3.3. Future research

Academic research in the fields of airline corporate finance and strategic decision-making processes can definitely progress both with respect to the European market and to the phenomenon of cross-border mergers as a whole.

European M&A operation and their strategic impact and consequences on the overall ongoing process of consolidation in the European industry could be a greenfield area of research; another interesting and rarely addressed topic of research is the EU regulatory framework in terms of cross-border airline mergers and alliances, its impact on the deal-making process, and its possible future developments and improvements.

Eventually, international airline M&As could be analyzed and compared among each other through case studies with the aim of evaluating the financial and strategic results of these operations.

Chapter 4 - Conclusions

4.1. Conclusions

This Master's Thesis studied cross-border airline mergers and acquisitions in the European Airline industry and aimed to improve and extend the knowledge in this field.

A major part of the studies and the research has its focus on the US market and on horizontal mergers in national market, thus not having the international dimension. The main theoretical basis of this paper relies on studies regarding international mergers in general, strategic advantages and negative consequences of airline mergers and on the choice between mergers and alliances.

The authors agreed on the feature of network complementarity as a key component in the merger operation to maximize value extraction and avoid regulatory limitations.

The case studies proposed in this Master's Thesis are Air France- KLM, Europe's first cross-border mega-merger, and the EasyJet-Wizz Air case, that represent Europe's latest international airline merger attempted in the region: the focus has been on the strategic interactions among the merged entities in terms of route network extension, financial impact of synergies, regulatory compliance by EU airline companies; the case studies mirror the theoretical findings and the insights of other studies.

This Master's Thesis can help future research in the field of airline economics and corporate strategy with respect to the European airline industry and its consolidation, in order to further study the futurity of international expansion through mergers and acquisitions for European carriers.

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Course of Managerial Decision Making

Arguments for choosing cross-border M&A as a growth strategy in
the European airline industry exemplified by the Air France and
KLM holding and the EasyJet/Wizz Air case study

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Thesis Summary

Introduction

The air transportation industry has always been cyclical, and this is even more clear when it comes to civil aviation, and it comes with no surprise that the entire M&A activity in the airline industry is strongly correlated with macroeconomic conditions and outlooks, industry shifts, trends as well as regulation changes

In this ever-evolving scenario the process of progressive consolidation of the European Airline Industry has become steadier: in fact, in the last two decades several cross-border mergers took place, starting from the first and most important wave of M&As in the early years of the 2000s, kicked off by the Air France-KLM merger, the deal that reshaped the European industry.

The COVID-19 pandemic halted the process of cross-border consolidation of the industry however, there is a widespread tendency across different markets to merge and concentrate after global black swans that generate financial distress, reduced passenger traffic, higher operational costs.

For this reason, M&As in the airline industry are relevant in light of the COVID-19 pandemic that affected the whole leisure industry since the first weeks of 2020; the event pattern that became reality in 2001 and 2007-08 seems to be repeating during this different, unprecedented situation of concern, where full-service carriers and low cost carriers, regional and global players looked for government aid or filed bankruptcy in order to attempt financial restructuring or to mitigate the harmful effect of the increased systematic operational risk.

This economic, financial, strategic scenario is worth to be investigated and international airline M&As have been indeed analyzed by scholars and practitioners, but there are still some grey areas that have not been explored yet by any of the existing studies and researches within the field of airline corporate strategy: however, there are some grey area in the scientific research on the relation between M&As and market entry or international expansion, that is one of the drivers of

horizontal M&As in the airline industry as it is in almost every industry.

Indeed, this grey area is much more noticeable when it comes to the European airline industry, where mergers and acquisitions represent a more recent phenomenon if compared to the US industry.

The first chapter will focus on theoretical research on airline M&As.

The second chapter will instead focus on two different case studies, namely the Air France-KLM merger and the EasyJet-Wizz Air attempted merger deal.

The two case studies will be compared in the final part of the chapter.

In the third chapter findings, future research and limitations will be outlined.

Chapter 1 – Literature review

1.1. International merger and acquisition as a growth strategy

Quantitative growth can be seen as an increase in total output, sales revenue, investments that lead to a product range extension, as well as resource acquisition (number of employees, new asset acquisition etc.). On the other side, “qualitative growth is about developing the quality of business elements. (Ilhan and Durmaz, 2015).

Every possible growth strategy that a company can choose can be classified into two macro-categories: organic and inorganic growth strategies (the core of this thesis). Organic growth is the natural alternative to growing by acquisition (or growing by a hybrid strategy that combines organic and acquisitive growth), and its definition is straightforward: organic growth is nothing but the “expansion of a firm’s operations based solely or at least primarily on its internally generated resources.” (Guth, 2016).

Therefore, growing organically implies relying on the company’s capacity of entering new markets or new geographical segments, as well as better performing in those where the firm already competes.

On the contrary, pursuing an inorganic growth strategy has not only the effect of helping the acquirer entering a certain market and/or acquiring certain knowledge and capabilities, but also of strongly influence the performance and the choices of the acquirer company's main competitor. (Yang et al., 2018).

Grant (2016) lists three groups of motives that lead a company to merge or to acquire another company, namely managerial, financial and strategic reasons: the latter are within the scope of this thesis and more specifically, among the strategic - related mergers, the horizontal and geographical extension mergers will be researched.

1.1.1 Main features of cross-border mergers and acquisitions

Because of their international nature which poses unique limits and challenges, because of the heterogeneous economic, institutional, cultural contexts in which the two economic entities use to operate, cross-border M&As are characterized by a higher degree of complexity if compared to domestic M&As. (Shimizu et al., 2004) Uncertainty and information asymmetry in the form of differences among the two countries' culture, business practices, and regulatory constraints or possible restrictions before or after the merger might obstruct companies from achieving their strategic goals in full. (Zaheer, 1995) (Shimizu, 2004).

The above-mentioned authors outlined three possible goals of a cross-border M&A:

- foreign market entry/diversification
- value-creating strategy (assuming market inefficiencies)
- undertake a dynamic learning process

1.2. International expansion through M&A in the airline industry

Existing literature mainly focuses and extensively takes into analysis the existing forms of airline alliances, as well as and the competitive advantage that can be

achieved through them without merging two airlines or acquiring one. (Wolf et al., 2013)

With respect to international airline M&As, the driving motives behind choosing this growth strategy are several and heterogeneous, but they can be grouped in three categories (Evrpidou, 2012) listed below:

- cost efficiencies: they can be network synergies, elimination of duplicative costs, maintenance efficiencies, fuel savings
- economies of scale: in the airline industry, they take place when merging similar fleets and workforce. (e.g.) Air France and KLM served their long-haul routes with the Boeing B777-200 and the Airbus A330-200 and achieved synergies.
- increase in market power:

However, merging two different airline companies is not an easy deal and it is the last possible degree of integration in terms of complexity; there are different degrees of integration among airlines that blur the boundaries that divide separated companies:

Interlining, code-sharing agreements, airline alliance, bilateral and multilateral joint venture, full merger/takeover (with separate or unified brands).

As shown, merging two airlines is the ultimate step of a cross-border expansion strategy that has many benefits.

These benefits, however, are primarily financial: achieving a substantial market dominance over certain routes and airports, as well as more convenient and profitable contract structures and negotiating strength (or bargaining power) in operations may be among the major benefits for a merged airline.

Yan et al. (2016) argue that the rationale behind the authorities' orientation to prefer alliances over mergers is related to the fact that a strategic alliance is likely to induce higher competition and generate an overall larger output; thus, the key difference between mergers and strategic alliances is that through the former airline companies

can achieve superior synergies thanks to a higher level of integration and coordination.

Yan et al. (2016) highlight that due to incompatibility of national regulatory frameworks, full international mergers are complex to be achieved and this has pushed many airlines to form strategic alliances as a second-best solution.

Iatrou and Oretti (2016) noted that carriers need “to be fast, efficient, profitable, flexible, adaptable and future-ready, with a strong market position.”, and this goal can be better pursued with cross-border mergers as they have control as the main driver, whereas alliance partners have to ‘negotiate, compromise, convince’.

The outcome and the consequences of financial operations of such scale are difficult to predict; in this sense, Merkert and Morrell (2012) listed out several advantages and risks pertaining international M&A transactions in the airline industry:

- substantial increase in market share at the expense of direct competitors
- consequent competition reduction or elimination: this advantage has been the driver of certain recent cross-border M&A in Europe. (e.g., Lufthansa’s takeover of Swiss and Austrian Airlines)
- Acquisition of scarce and valuable airport slots and company-related facilities

1.3. Advantages, challenges, and success factors of growth through M&A in the European scenario

Hsu and Flouris (2017) notice that two type of cross-border mergers are relevant and evident in the European airline industry.

The first type are “focusing mergers”, that take place when an airline seeks to take over a competitor that shows a similar operational structure and competes in common markets and routes: clearly, the aim is to take over a competitor that shows a quite high degree of route overlap. (e.g., Lufthansa’s takeover of Swiss and Austrian)

“Diversifying mergers” belong to the second type, and M&As such as Air France-KLM and British Airways-Iberia are valid examples indeed: in these operations, the key point is exploiting the complementarity of the respective networks.

Referring to the previously mentioned “diversifying mergers”, Németh and Niemeier (2012) provided an overview of the most important M&As in Europe and the relative assessment of competition by the European Commission, so as to carry out a detailed analysis of the European Commission’s assessment of several merger proposals; the following must be considered prior to any approval of a merger:

- Product/service substitutes (number of firms offering a similar service, such as lining the same airport pair or city pair subject to analysis)
- Degree of competition between these substitutes
- Entry barriers
- Potential responses of competitors (oligopolistic interaction between firms)

Németh and Niemeier (2012) took into analysis the Air France/KLM merger case so as to show the most important limitations to a deal the competition authority can impose to the involved parties; they are listed below:

- Surrender of slots: it can happen in multiple hubs, without limitation in time
- Reduction of frequencies: e.g., limit of frequencies on a certain route
- Freeze of frequency: no increase of flights on certain routes
- Automatic price reduction mechanisms
- Forcibly allow new entrants to be hosted in the new frequent flyer program

Hüschelrath and Müller (2015) affirm that a merger between non-overlapping networks would give customers additional travel possibilities, thereby offering them higher value that justifies price increases. For this reason, antitrust and competition authorities prefer route complementarity to route overlap. (Iatrou and Oretti, 2016)

Holtz and Grimme (2007) warned that both in mergers and alliances pure complementary network do not create any market power, and for this reason the companies must have some common routes or presence in certain hubs.

The highlight some key elements that can make a merger successful:

- Double hub-strategy in two large airports
- Strong market power
- Relevant degree of network complementarity

Chapter 2 – Case studies

2.1. Industry overview

The aviation industry in Europe is still on its path to recovery, as showed by one headline data (in comparison with 2019) updated to December 2021: (Think Paper #15 EUROCONTROL)

- Intra-European traffic: - 43%
- Scheduled carrier flights: - 52%
- 1.4 billion fewer passengers carried
- Leading aviation groups down by -30% (Turkish Airlines) to -64% (EasyJet)

Despite the comparison with the pre-pandemic era appears to be dramatic, the chart below shows that it is worth underlining that airlines are progressively improving their operational levels in comparison with FY2020.

The trend is clear if we look at the last two years' comparison between actual and planned en-route service service units.

2.2. Air France-KLM merger case study

The merger between Air France and KLM took place in 2004 and remains among the few important ones in the European scenario (which is still not as consolidated as the US market) and gave life to a leading group that still allows the two companies to be in the top 10 European airlines in terms of flights operated.

The Group was officially founded in May 2004 in the form of an “umbrella organization” (one holding, two airlines).

At the time of the merger, the combined turnover equaled €19.2 billion, giving life to world’s leading group in terms of turnover and Europe’s leading group per total annual traffic.

If among an airline’s major assets slots shall definitely be counted, it must be highlighted that both Air France and KLM benefited from a strong position in two leading European airports, Paris CDG and Amsterdam AMS.

At the time of the merger, the group’s long-haul network was the real core of all operations, covering 101 destinations in around eighty different countries: 27 of them were operated by KLM only, whilst other 43 were operated by Air France only; only 31 out of the 101 total destinations were common destinations, and they were routes from Paris CDG and Amsterdam AMS with an all-year high level of passenger traffic

Long-haul traffic represented 79% of overall traffic of AF-KLM, 57% of revenues. Prior to the merger, the synergies were valued between 385 and 495 million euros in a five-year period since the creation of the holding.

Around 65-75 million euros of synergies were forecasted for the first year; at year-end the achieved synergies were much higher, being around 115 million after fiscal year 2004.

In 2004, increased passenger revenue has generated about 73 million euros in synergies, primarily as a result of the harmonization in the long and medium-haul networks and the implementation of combinable fares between the two companies. Thus, the expected synergies at the end of the fifth year should have equaled 580 million euros, divided between cost savings (40%) and revenue synergies (60%). The initial estimate of €495 million within the first five years (thus, before 2008-09), these synergies have been updated every year with their latest revision standing at €750 million over the 2004-2009 period (+51.5% vs. the original target set at the time of the concentration).

2.3. Wizz Air – company overview

Founded in 2003 and became Hungary's de facto national airline, Wizz Air (IATA code: W6, ICAO code: WZZ) grew at a breakneck speed throughout the last years, becoming Central and Eastern Europe's largest low-cost airline.

As of April 2022, the ultra low-cost airline operates more than 700 routes in 151 airports across Europe, North Africa, and the Arabian Peninsula.

Wizz Air appears to outperform every industry average in the last 5-7 years.

Looking at the figures, Wizz Air's passenger load factor has always outpaced the industry average, being above 90% since FY2017 except for 2021, where it sank to an all-time low 64%.

Unexpectedly, the highest passenger load factor ever reached by the company has been recorded in 2020, where it peaked at 93,6%, far higher than the European industry average figure that dropped to 68,7%.

Again, Wizz Air outperforms the industry in terms of revenue generated, peaking in 2018 with a 21.2% growth in comparison to FY17; the highest RPKs have been recorded in 2020, when the company clinched 69.972 billion RPK (again, this is company's all time highest figure).

As for the RPK growth, Wizz Air constantly grew from 2015 to 2020, averaging a 19,3% annual growth in available-seat kilometer: this fact demonstrates that the airline has been on a path to capacity expansion in the last years, offering its customers more seats to more distant destinations; the latter element will be further discussed in this chapter while analyzing Wizz Air's route map extension and comparing it with EasyJet's.

Numerical data show that the company's load factor exceeded the break-even target in every year from 2017 to 2020, with 2021 being the only exception in the period considered: last year, the target load factor would have been 109,74%, which is materially impossible to achieve as LF is a ratio between 0 and 1.

Despite the drop of total operational costs between 2020 and 2021, the ratio between total costs and revenues reached 171%, making the break-even target impossible to reach for FY2021.

2.4. EasyJet – Company overview

Alongside Ryanair and Wizz Air, EasyJet (IATA Code: U2 – ICAO Code EZY) features in Europe's low cost big three, being a LCC point-to-point airline: throughout the years, the English company leveraged on its operational efficiency and no-frills service that granted and leading positions both in primary airports and secondary airports while offering its customers deliver low fares.

As shown by Table 10 in paragraph 2.1., EasyJet is still among world's top ten airlines in terms of daily flights operated.

Even though EasyJet reached a lower load factor if compared to Ryanair and Wizz Air between 2018 and 2020, it performed better than the industry average every year since 2014, thus showing operational capabilities.

EasyJet has still to reach pre-pandemic load factor, having further worsened its performance in 2021.

2021 proved to be a nightmare fiscal year indeed as the year-on-year RPK growth has been -59,95% compared to 2020, while the industry bounced back by around 29%.

Thus, despite a sharp reduction in available seats in 2021, not only the company hasn't returned to a growth, but its performance in terms of revenue generation has been worse than 2020 (-42,63% in RPK growth vs. 2019).

In 2022, EasyJet's ancillary revenue accounted for 46% of total revenues (458 million euros).

2.5. Wizz Air and EasyJet – financial comparison

Methodology

The respective comprehensive financial performances will be compared using the Harmonic Index (HI) proposed by Teker et al. (2016), aimed at measuring four performance areas: profitability, operating, liquidity, efficiency.

The Harmonic Index (HI) can be calculated in the following way:

HI = f (profitability, operating, liquidity, efficiency)

$$HI = w_{P1}P1 + w_{P2}P2 + w_{P3}P3 + w_{O1}O1 + w_{O2}O2 + w_{O3}O3 + w_{L1}L1 + w_{L2}L2 + w_{R1}R1 + w_{R2}R2$$

		2016	2017	2018	2019	2020	2021
<i>PROFITABILTY</i>	<i>ROA</i>	7.76%	5.11%	5.12%	4.28%	-12.73%	-8.78%
	<i>ROE</i>	15.74%	10.89%	11.07%	11.69%	-56.82%	-32.51%
	<i>Profit Margin</i>	9.15%	6.04%	6.07%	5.47%	-35.86%	-58.85%
<i>OPERATING</i>	<i>Avg. Receivables Days</i>	4.50	5.35	6.25	5.43	5.88	7.76
	<i>Avg. Payables Days</i>	9.94	12.92	18.24	20.60	31.91	39.51
	<i>Avg. Inventories Days</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>LIQUIDITY</i>	<i>Quick Ratio</i>	0.92	1.04	0.97	0.79	0.67	1.56
	<i>Debt Ratio</i>	0.24	0.34	0.30	0.56	1.17	1.50
<i>EFFICIENCY</i>	<i>Revenue/Employees</i>	0.43	0.41	0.41	0.41	0.21	0.11
	<i>Revenue/Aircraft</i>	18.17	18.09	18.72	19.29	8.80	4.73
		14.6104	15.8741	18.2309	19.0506	17.3658	18.8635

Table 1: Harmonic Index (HI) calculation for EasyJet (2016-2021) – Own elaboration. Data source: Bloomberg Terminal

		2016	2017	2018	2019	2020	2021
<i>PROFITABILTY</i>	<i>ROA</i>	16.40%	16.25%	14.33%	4.04%	6.77%	-12.60%
	<i>ROE</i>	33.59%	29.98%	25.07%	10.05%	23.03%	-53.40%
	<i>Profit Margin</i>	15.30%	14.55%	14.15%	4.44%	11.66%	-78.88%
<i>OPERATING</i>	<i>Avg. Receivables Days</i>	20.83	16.45	16.20	13.75	36.30	8.19
	<i>Avg. Inventories days</i>	4.05	5.86	5.15	4.90	7.66	17.36
	<i>Avg. Payables Days</i>	13.00	16.30	14.64	12.38	14.50	29.15
<i>LIQUIDITY</i>	<i>Quick Ratio</i>	1.57	1.67	1.61	1.26	1.05	1.16
	<i>Debt Ratio</i>	0.07	0.05	0.03	0.03	1.27	1.38
<i>EFFICIENCY</i>	<i>Revenue/Employees</i>	0.60	0.52	0.53	0.54	0.62	0.19
	<i>Revenue/Aircraft</i>	21.33	19.89	20.85	20.71	22.82	5.39

24.350	23.8474	23.4082	21.4572	32.1222	21.3853
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Table 2: Harmonic Index (HI) calculation for EasyJet (2016-2021) – Own elaboration. Data source: Bloomberg Terminal

2.6. Network complementarity between EasyJet and Wizz Air

As broadly described both in Chapter 1 and 2, complementarity between two route networks is an essential condition for a cross-border merger to succeed and to be approved by antitrust authorities

It is possible to draw some considerations and empirical assessment on EasyJet and Wizz Air, even though the merger did not take place.

EasyJet’s destinations broadly cover Western Europe as the company is strongly present in United Kingdom, Italy, Spain, France, Germany; on the other side Wizz Air is much less operative in the above-mentioned countries as its business mainly focus on Eastern Europe, operating around 440 routes from Poland, Romania, Hungary and Bulgaria only. (Wizz Air Annual Report 2021).

Methodology

The analysis has been carried out comparing routes operated until March 2022 by EasyJet (549 routes) and Wizz Air (552 routes) according to Airline Route Mapper. In the Visual Basic editor, the following macro has been inputted in order to find a common text value between the datasets:

```
Sub Find_Matches()
Dim CompareRange As Variant, x As Variant, y As Variant
Set CompareRange = Range("I2:J550")
For Each x In Selection
For Each y In CompareRange
If x = y Then x.Offset(0, 1) = x
Next y
Next x
End Sub
```

Through the calculation, 15 out of 549 possible common routes have been found: among them, 9 are routes from London Luton (LTN) and 3 from Budapest (BUD). The remaining three common routes are Belgrade-Basel (BEG-BSL), Basel-Pristina (BSL-PRN) and Krakow-London Gatwick (KRK-LGW).

Out of all the routes considered for the two airlines, the percentual of route overlap is 2,73%: it is an extremely low percentage, that could of course increase following a progressive expansion of the respective destination lists and the addition of other high-season destinations where the companies may compete against each other.

2.7. Similarities and differences between the Air France-KLM merger and the proposed EasyJet-Wizz Air merger

The first similarity is definitely related to the negative exogeneous factors that reshaped the industry in the beginning of the 00s and the 20s: above all factors, it is worth mentioning first the industry's black swans, the 9/11 terror attacks and the ongoing COVID-19 pandemic.

Another critical common factor is the sudden rise in oil price and the reduced stability in energy markets

But the most notable similarity is the strong network complementarity in both two case studies: Air France and KLM joined forces to create a well-composed, globally extended long-haul, while EasyJet and Wizz Air are complementary in Western and Eastern Europe respectively.

This is among the key elements behind the Hungarian airline's takeover proposal, as Wizz is indisputably the leading airline in Central and Eastern Europe, and EasyJet is a strong player in the continent's largest national markets such as UK, Spain and Italy, and this could be the merger's main synergy and source of competitive advantage for the years to come in the post-pandemic scenario.

This strong market power exerted in the respective geographical segments is another common point of the two case studies: Air France and KLM were leaders in their

respective home markets and in the closest markets, as well as EasyJet and Wizz Air are now leading players in their home countries and in the nearby geographical area. The last similarity to be listed is the commonality of fleet, since in both cases the companies operated an Airbus fleet.

A hypothetical cross-border merger between EasyJet and Wizz Air would probably see even more relevant synergies as their fleets are entirely composed by Airbus aircrafts belonging to only two aircraft families, namely the Airbus A320 and A321. The clearest difference among the two case studies is the business model, as EasyJet and Wizz Air are low-cost companies unlike AF-KLM, even though it can also be seen as another similarity since the two airlines are similar to one another in terms of business model.

However, the most relevant divide is related to the high differences between EasyJet and Wizz Air when it comes to corporate culture and cost base: these discrepancies were not present in the Air France-KLM case.

The last difference regards the slots held by the two companies: while both Air France and KLM still hold primary slots only, EasyJet holds primary/secondary slots and Wizz Air holds secondary/tertiary slots.

Chapter 3 – Analysis and discussion

3.1. Discussion

Although there is no exact formula for striking the perfect airline M&A as the variables to be considered are countless, some features are more critical than other, and their relevance cannot be overlooked; they are listed below:

- Network complementarity (and reduced network overlap)
- Fleet compatibility
- Reliance on a two-hub strategy

Network complementarity is important from a strategic standpoint and in terms of antitrust compliance, since aiming to gain substantial market dominance within a

certain national market or a city could be indeed beneficial for the merging entities but it poses the serious risk for the deal to be hampered by competition authorities. Another factor of success has proven to be the fleet compatibility, which has generated cost synergies in the Air France-KLM merger and is among the key aspects in the EasyJet-Wizz Air case: having common aircraft models immediately generates pilot and engineering efficiencies while composing a heterogeneous fleet can be source of uncertainty in financial and operational terms.

Another critical success factor for the merging companies is the reliance on two dominant hubs: Air France and KLM did leverage on this to project their market power in their respective home markets and geographical segments, but the underlying condition for this is the implementation of a hub-and-spoke strategy. Relying on two hubs is probably not possible for every potential international merger then, given the fact that low-cost airlines notoriously operate point-to-point transportation models, where the service offered to the customer is just the connection between a city pair, without transporting the passenger to a central hub. Cross-border mergers that are characterized by those factors discussed above (network complementarity, fleet compatibility, capacity of relying on two leading airline hubs) could benefit from the following advantages:

- effective expansion in foreign market where the airlines were not present
- increase of market share in markets where the companies already compete
- generation of cost and revenue synergies
- reduction or elimination of competition

3.2. Limitations

The first limitation relates to detailed strategic data concerning up-to-date market shares, airports served, passenger traffic forecasts: this information is available for industry practitioners only. (e.g., industry-specific database like OAG Schedules Analyser); another major limitation has been the lack of previous research and studies on European airline mergers and acquisitions.

3.3. Future research

Academic research in the fields of airline corporate finance and strategic decision-making processes can definitely progress both with respect to the European market and to the phenomenon of cross-border mergers as a whole.

Another interesting and rarely addressed topic of research is the EU regulatory framework in terms of cross-border airline mergers and alliances, its impact on the deal-making process, and its possible future developments and improvements.