Consolidation in the air transport sector and antitrust enforcement in Europe

Marco Benacchio[1]
Autorità Garante della Concorrenza e del Mercato
Piazza Verdi 6a, I-00198
Roma
Italy
tel: +39 068 5821425
fax: +39 068 5452425
e-mail: marco.benacchio@agcm.it

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The paper aims at analysing the role for Antitrust intervention in the light of the consolidation trend of the airline industry in Europe. The almost full liberalization in the aviation sector (at least for intra-community routes) leaded to a situation where, at the same time, (i) new players have been entering the market with an increase in competition (actual and potential) on EU routes, and (ii) deep forms of co-operation (alliances and code sharing) and integration (mergers) have been exploited to better perform at national and international level. The paper highlights the economic analysis behind Antitrust assessment in the evaluation of mergers and cooperation agreements in the air transport sector. Consolidated standards for market definition, competitive assessment and feasible remedies are presented and discussed in the light of the relevant EU case law. Moreover, according to the radical changes occurring in the industry – i.e. the emergence of peculiar market forces such as low cost carriers and their interaction with traditional full service carriers – some preliminary considerations are introduced on the likely need for adjusting the assessment criteria for an effective Antitrust intervention.

Keywords: Airline Industry, Antitrust, Consolidation

1. Introduction

This contribution addresses the role and the tools of competition policy in the evaluation of the consolidation phase which is re-shaping the air transport industry, after the implementation of the deregulation packages which gradually liberalized market access conditions.

[1] The views expressed in the paper are my own and should not be taken as necessarily representing those of the Italian Competition Authority. The author thanks the anonymous referees for their useful comments.

Competition is crucial to any liberalization process, where regulatory authorities should retreat and economic agents take over (in the airline industry as well for airports, energy and telecommunication industries). Only free and open markets, in fact, force companies to compete on their merits. If competition, by its nature, implies rivalry and foreclosure, the issue is to keep the competitive strategies within the space of compliance to competition law.[2]
In this contest, the role for Competition authorities (enforcing antitrust rules) should not be to influence the market outcomes (in terms of number of players, price and quantities), but – as a referee – to preserve the contestability of the air transport markets in the light of the current regulation. By this way the sub-set of competition-distorting strategies put in practice by operators (leading to exploitation of market power in terms of output restriction and price increase) would be reduced, while the sub-set of efficiency-promoting strategies (including those aiming at excluding less efficient competitors) would be maximized, with the likely final result of increasing consumer welfare.
Some key elements of the industry state of the art need to be highlighted, both in terms of the institutional framework and emergent market forces, in order to properly discuss about the role of competition policy, which now probably represents the main current form of public intervention in the sector (Gillen-Morrison, 2005). Public action in fact needs to be non distorting, consistent with the EU liberalization schemes, and clearly different from the past governmental policy action in the aviation business in Europe which, due to the radical involvement of national interests (in terms of ownership, foreign relationships and safety), heavily influenced the industry equilibrium till the beginning of the third Millennium.[3]
At the same time, no dogmatic approach on the "neutrality" of the Antitrust intervention should be emphasized. The market itself is a "social institution" (implying the interaction of private and public economic agents, including regulators) and the public intervention (in terms of rules and market control) is a necessary element –not necessarily a distorting or oppressive one – in consideration of the many deviations experienced from the perfect competition model (Caffè, 1986). Competition policy therefore needs to be clearly market-oriented in the application of its leading principles to a concept of workable competition in order to perform as a public intervention that does not affect, as a per se, efficient market outcomes and promote incentive to maximize social welfare.
The paper is organized as follows. After a synthesis of the regulatory framework and a picture of emerging market forces (§2), the role of antitrust intervention in competition enforcement in the evaluation of merger and alliances is described (§3). Consolidated antitrust standards are considered, with reference to market definition (§4), competitive assessment (§5) and imposed remedies (§6). Finally some preliminary considerations on the new challenges for updating Antitrust enforcement tools are briefly presented in terms of risks and potential (§7); general remarks in conclusion (§8).

[2] Basically, the core of the Antitrust enforcement by Competition authorities regards (*i*) *ex post* interventions (evaluation of cartels and agreements which distort competition and the persecution of abuses of dominant position) and (*ii*) *ex ante* interventions such as merger control.
[3] In the period 2000-2001 can be in fact located the last significant interventions by member states in order to subsidize and re-capitalize flag carriers. The first bankruptcies of publicly owned carriers (Sabena and Swiss) occurred in 2001.

2. The institutional framework of civil aviation in EU and emerging market forces

2.1 The current institutional framework

Internal market

Civil aviation in EU makes a very important contribution to the European economy. In terms of figures, more than 130 airlines are currently operating, carrying almost 700 million passengers in the enlarged European Union in 2005, within a network of more than 450 airports and about 60 service suppliers; the whole sector (airlines, airports and related logistics) employs almost 3 million workers and the activity accounts for almost 1.5% of the European GDP.[4] This significant scale is mainly a consequence of the liberalization of air transport in the 1990s and the creation of an internal open market.[5] The increase in the number of airlines is clearly a sign of the dynamic nature of the sector, once regulatory barriers have been removed, especially in consideration of the several carriers that have been taken over or ceased trading in the meantime.[6]
Generally speaking, European transport policy has profoundly transformed the air transport industry, by creating the conditions for competitiveness and ensuring both quality and safety of service. Consumers have been the principal beneficiaries as this policy has led to more routes, greater choice and an increased overall quality of service.
As to market equilibrium, the almost full liberalization of the aviation sector and airports and the free market access regime for intra-Community routes has made it possible for newcomers to join the market, making life difficult for the monopoly power of the national flag carriers. Some of these carriers were suffering badly from the "distressed state airlines syndrome" (Doganis, 2001), since their corporate culture focused on rent exploitation in un-contestable markets, could not adjust to the mechanism of the free market system and related competitive environment (Autorità Garante, 2005).

International aviation markets

On the other side, steps in opening up the international aviation markets are harder to be implemented.[7] The difficult road map from bilateral air service agreements between governments - which still represent a considerable degree of public interference by restricting

[4] Between 1992 and 2003, the number of intra-Community routes increased by more than 40% giving citizens better access to more destinations, the number of companies increased by 25%. Data reported are available on the Air Transport Portal of the European Commission (http://ec.europa.eu/transport/air_portal/index_en.htm).
[5] In Europe, traffic rights were liberalized between 1992 (international flights) and 1997 (national flights). This liberalization was extended to neighboring countries (Norway, Iceland, Liechtenstein and Switzerland) in the following years.
[6] The number of scheduled airlines established in the European Economic Area has increased steadily from 1992, reaching a maximum in the years 2002-2003, while now is almost stable (the EU enlargement offsets the ceased activities).
[7] International traffic rights are laid down in detail in bilateral air services agreements. These agreements are regularly negotiated between Governments, as represented by their Aeronautical Authorities. The total number of bilateral air treaties in the world amounted to around 4,000 in 2006.

market access - toward "open aviation areas" is, in fact, one of the key priorities in the current agenda for a Community's external aviation policy. First significant results have been reached for EU-US routes on 22 March 2007, when European Union transport ministers unanimously approved the first stage air transport agreement between the EU and the United States of America (US-EU open sky agreement). The agreement is in force from April 2008.
Other international agreements currently regulating EU external aviation policy (notwithstanding the "open Skies" judgment of the Court of Justice in 2002[8]) still imply bilateral agreements which in general defend national carriers (reducing the likely wider supply in case of full application of the open aviation areas), distort competition (in terms of quantity fixing and market sharing) and affect the co-operation strategies in case of international mergers (the value of a carrier may in fact be reduced if it loses its nationality, since it may lose the designation – traffic rights – in the bilateral agreements).

Access to airport infrastructure (slot allocation)

A deregulated market tends to increase the number of market players, creating additional pressure on airport infrastructure. There is a general consensus upon the fact that the actual slot allocation rule – mainly based on grandfather's right[9] - represents a barrier to entry, but alternative market solutions are not a panacea for all the likely distortions. They in fact may incur in failures or worst competition outcomes. It is not by chance that alternative slot allocation schemes have been accurately analyzed by the EU Commission since 2001, but they seem quite far from a full implementation (Mott McDonald, 2006).[10]
The recent Communication adopted by the Commission on 30 April 2008 on the application of Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports, may open to a radically new framework of allocation and exchange.[11]

[8] In November 2002, the European Court of Justice found that if an Air Services Agreement (ASA) between a Member State and a third country permits designation only of companies owned and controlled by nationals of the signatory EU Member State, such designation is discriminatory and is in breach of EC law. As a result, every EU Member State is required to grant equal market access for routes to destinations outside the EU to any EU carrier with an establishment on its territory. ASAs between EU Member States and their bilateral partner States must be amended to reflect this.

[9] Council Regulation (EEC) 95/93, partially amended by EC Regulation 793/2004, on common rules for the allocation of slots at Community airports was the first step, based on the principles governing the then existing system of slot allocation, towards laying down a number of transparent, non-discriminatory rules. In particular, so as to enable new airlines to gain entry to the liberalized market, the allocation of slots had to be based on the rule that a maximum of 50% of slots used or newly created had to be reserved for newcomers on the markets. The slots allocated prior to the approval of the Regulation remained subject to the same rules as before: established companies were not deprived of their slots.

[10] In January 2004 a study committed by the DG TRANSPORT was completed to develop market-oriented slot allocation mechanisms and to assess their feasibility. The main goal of the study was to look into such mechanisms that encourage mobility of slots and lead the most efficient use of scarce airport capacity. The study also addressed the environmental impact of the identified mechanisms and their likely consequences for competition between air carriers in the EU market. After a consultation with the industry that took place late 2004, in January 2006 a second study has produced focusing on a number of more clearly defined market mechanisms that could be considered. On the basis of the outcome of this study the Commission will further develop its thinking on how the potential mechanisms could be included in draft legislation to be submitted to the European Parliament and the Council for consideration.

[11] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "On the application of Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports, as amended".

Reduced public intervention

Along with the liberalization process, the public intervention in the airline sector, which was quite significant till the 1990s, is partially decreasing, but not completely fading out, although representing a less relevant element of interaction for competition policy (and competition enforcers) than in the recent past.[12] A part from the issue of State aid control by the Commission, in fact, the policy of protecting the weak "state-controlled" carrier from real competition, corresponded to a significant distortion of the competitive process. As a paradox, in many cases, such a policy showed also to be short-sighted in the long run, implying a faster road to weakness for the protected player. In fact, by allowing extra profits and/or extra costs, the incentive for the incumbent to increase efficiency and effectiveness as a way to compete was reduced for the incumbent (leading to overstaffing, cost and X-inefficiencies, short-sighted rent seeking policies).[13]
Recently, several privatization processes took place in the airline industry, although complete privatization processes are rare and governments sometimes still hold capital shares or voting rights (including cases of golden share) and influence the companies' governance.

Table 1. Major EU airlines shares' breakdown

Airline	Shares' breakdown
Air France (including KLM)	Float (65.8%). State (18.6%). Employees (14.1%). Treasury (1.5%)
Lufthansa	Float (100%)
Alitalia	State (49.9%). Float and Employees (35.7%). others (14.4%)
Aer Lingus	State (85.1%). Employees (14.9%)
Austrian Airlines	Float (48%). State via ÖIAG (39.7%). others (12.3%)
British Airways	100% Publicly held
Finnair	State (57%). others (43%)
Iberia	Float (64.4%). Stable core shareholders / syndicated shares (36.6%)
Olympic	State (100%)
SAS	Scandinavian States (50%). Float (14.6%). others (35.4%)
SN Brussels	Virgin (29.9%). Belgian companies and institutional investors (70.1%)

Source: data collected from Airline Business – Special Report on Alliances (September 2006)

[12] The public interest in former flag carriers can explain the evergreen temptation of supporting the national champion, mostly in case of managerial and financial difficulties. Several re-capitalization of former flag-carriers occurred in EU and were authorized according to State Aid legislation: Sabena (1991, 1995), Iberia (1992, 1995), Aer Lingus (1993), Tap (1994), Olympic Airways (1994), Air France (1994, 1998), Alitalia (1997, 2001). The "market economy investor principle" has been the guideline that the Commission adopted to identify state aids in all the cases, including recapitalization: when a public subsidy is given at certain conditions (e.g. perspectives on returns on investments) under which no private investor – driven by a profit maximization approach – would take the risk to invest in that economic activity. If the identified state aid distorts competition, thus it is illegal.
The authorization of several state aid procedures in favour of airline companies was taken under some conditions, such as: (i) the aid is part of a restructuring plan, (ii) the plan shall include a consistent reduction of Supply, (iii) no growth is allowed by means of state aid, (iv) no utilization of the aid to distort competition, (v) proportionality of the aid in respect of the plan, (vi) preference to plans including a privatization scheme of the airlines, (vii) authorization of the last allowed public recapitalization, (viii) transparency and possibility to monitor and control the aid. Most of the clauses are very difficult to assess, and decisions have been criticized for being too political oriented.
[13] The several situations of dramatic financial distresses leaded to technical "bankruptcy" only in the case of Sabena and Swiss Air, both in 2001.

Privatization processes, in any case, could be non-neutral. Also the privatization schemes, in fact, could be evaluated as a state aid in case of no public and transparent procedure or prior airline's debts cancellation by a public body. Besides state ownership, capital mobility is still imperfect since, with reference to EU, to maintain the status of Community carrier (and the relative traffic rights) at least a percentage of the share of an airline has to be in the hands of EU investors (the same, even more radical, occurs in the US). Governments that have otherwise adopted liberal commercial aviation policies continue to require that domestic owners hold upwards of 50% of an airline's voting equity.[14] Many states retain foreign ownership restrictions on their airlines because official believe that domestic ownership promotes economic development, job preservation, trade and tourism, and capital retention, a part from security issues. In many cases, the implicit assumption behind foreign ownership restrictions is the questionable belief that local owners are more likely, than foreign owners, to consider the national interest or serve local stakeholder interests (Carney and Dostaler, 2006).

2.2 Emergent market forces and reaction strategies

According to the almost liberalized stage of the industry, the emergent market forces to be taken in consideration for a consistent competition policy can be briefly summarized as follows:

Strengthening of competition between airlines as a result of new players entering the market and of a general wider contestability on EU routes, at least in the beginning of the liberalization stage. This meant the speeding up of the erosion - although not at the same magnitude for different flag-carriers - of the previously "captive" markets, at a national and European level (Macchiati-Piacentino, 2006).

In parallel, deeper forms of co-operation, mainly at international/intercontinental level, have been exploited by full service carriers in order to better perform in terms of efficiency and network coverage (Pels, 2001). Strategic alliances among major world-wide carriers re-shaped the supply of international air transport by developing few intensive interconnected hub&spoke networks (Sky Team, Star Alliance, One World). Where the commercial strategies of partners are coordinated (e.g. frequent flyer programmes), alliances resemble an oligopolistic outcome. The vast literature on strategic alliances in the air transport sector highlighted private/social costs and benefits deriving from cooperation agreements (e.g. Brueckner, 2003; Brueckner-Pels, 2005).

The liberalization process has allowed the emergence and fast development of a new type of airline in Europe, a radically new player - the so-called "low cost carrier" - offering a no-frills point to point new product which, in return for a simpler service and/or the use of secondary airports, provides very competitive prices. The main role of low cost carrier has been to develop additional air transport for price-sensitive passengers, as a result of a revolutionary approach in the supply-side which allow for low fares.[15] But as the new product gained in popularity, route coverage and frequencies, it also implied changes induced in the demand-

[14] Only a few states have abandoned foreign ownership restrictions and adopted the International Civil Aviation Organization's (ICAO) recommended "principal place of business plus a strong link" or "community of interest" criteria of airline nationality.

[15] The low cost carriers represent more than 25% of the capacity offered for the transport of passengers within the EU, offering each season new routes at lower prices.

side, promoting a growing competition with full service carriers for the need of tourists and some less time-sensitive business travellers.
The reaction by full service carriers (especially flag carriers) to new players, including low cost carriers, had been focusing on different kind of strategies, sometimes combined (Brueckner-Pels, 2005):
Co-operation strategies with other traditional carriers at international level, with the aim of reducing the competition among partners on Members States' domestic routes while exploiting cost economies and competitive advantages on international connections where competition takes place between big alliances. It is not by chance that EU internal routes normally see competition – if any – between the former flag carrier and new players other than flag carriers;
Exclusionary practices (such as predation, anticompetitive use of overcapacity) put in practice by a still dominant player (i.e. the former monopolist) against new entrants, mainly on national routes, in order to reduce their ability to survive as real competitors. Such a strategy usually occurs in the first stage of the liberalization (when the competitive pressure is weak and the market power of the incumbent still relevant);
consolidation strategies (from code sharing to mergers) on domestic markets with competitors, in order to recoup a quasi-monopolistic market equilibrium which allows to extract the rent reduced by the new entrants (Dennis, 2005). The strategy usually refers to a mature phase of liberalization, when the market share (and the market power) of the main player has been significantly reduced.[16]

3. Consolidation in the air transport sector and the intervention of Competition Authorities at EU and national level

There are different layers of interventions in enforcing competition: (i) at a EU level, by the EU Commission according to the Treaty and the specific Competition legislation (e.g. merger regulation), and (ii) at a national level, by national competition authorities according to single member State competition law.[17]
Main task refers to competition law enforcement, which is the core of the activity for a Competition Authority, while other activities – not discussed in the paper – relate to competition advocacy[18] and state aid control (which is performed only by EU Commission[19]).

[16] To the extreme case of the proposed hostile takeover of Ryanair on Aer Lingus which represents a merger between low cost carriers (the latter being a former full service carrier currently run with low cost schemes). See *infra*.
[17] Co-operation between the EU Commission and the National Competition Authorities is intensified after the adoption of the new regulation 1/2003 (the so-called "modernization package" which reformed the EU antitrust activity).
[18] Competition advocacy activity is the support of the philosophy of competition policy in the regulatory process. A recent example of activity in the air transport sector is the advocacy of the institutional design of the "open sky agreement" (with the elimination of traffic restrictions on third countries, the replacement of the "nationality clause" with the concept of "community carrier" (favoring intra-Community mergers) and the progressive reduction of ownership and control barriers (allowing consolidation even with third country airlines, on a reciprocity base). Moreover, an important advocacy intervention has been the revision of the Block Exemption for IATA's passenger tariff conference system, that is an industry-wide agreement where the block exemption has been justified due to the benefits to consumers outweighing the risks inherent in restricting price

Enforcing full compliance with EC and national competition rules ensures that the benefits of liberalization are not cancelled out by anti-competitive mergers, agreements or abusive practices.

With regard to scheduled air passenger services, the focus is currently on mergers and alliances, which represents the most updated issue in the light of the emerging trend of the industry since the beginning of the new century, after almost ten years of progressive liberalization of market access conditions.[20] Efforts of liberalization, in fact, go hand-in-hand with the industry's need for cooperation and consolidation. It is in fact crucial for carriers to make concerted efforts and create synergies to survive and compete in a global economy (Nordic Competition Authorities, 2002).

Nevertheless, behind the goals of efficiency-seeking and supply rationalization, the consolidation strategies pose serious issues from the point of view of competition policy. In fact, the increasing number of independent players which characterized the first years of the liberalization process tends to reduce or stabilize (also as an effect of the financial difficulties for airlines occurring after the 9/11 accident), with the likely consequences on the reduction of consumer welfare.

Mergers differ from alliances in terms of structural changes for the involved entities and different legislation applicable.[21] For the purpose of this paper the two strategies will be considered – unless specified – as different manifestations of the consolidation phenomenon, which is analyzed in the light of the Antitrust paradigms.

From an overall policy perspective, the consolidation process should be triggered by the needs of individual players of the air transport sector. That is to say, no preference towards any specific institutional design or airline size should be given by the regulator. It is for the market to find the optimal structure, whereas the goal of competition policy is to make sure that liberalized markets remain accessible for competitors and that consumers can fully take advantage of liberalization benefits.

Looking at the consolidated jurisprudence at EU and national levels in the field of evaluation of mergers and alliance, it comes out that there is a general positive attitude in the antitrust

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competition. After an in dept review the exemption will be granted only by the end of 2006 for routes within EU.

[19] It is essential to maintaining a level playing field for free and fair competition in the Single Market. State aids discipline exists to ensure that national governments do not engage in old fashioned ("beggar thy neighbour") policies, using public money to protect companies from competition while doing nothing to prepare them for competitiveness.

[20] Needless to say that Antitrust enforcement regards also (*i*) any agreement or practice which has the objective of restricting competition, by means of price-fixing, output limitation, or sharing markets or consumers (art.81 of the EU Treaty), and (*ii*) any exclusionary or exploitative conduct by dominant airlines (art. 82 of the EU Treaty). The latter were typical strategies of the first period of the liberalization process, when the incumbent still had the market power to exclude new entrants.

[21] Mergers are operations which imply structural changes for the merged entities, caught either by the EC Merger Control Regulation or by one or more merger control regime of the national states. Alliance are cooperation agreements by which airlines integrate their networks and services as if they were a single entity (but without the implied irreversibility of a concentration) while retaining their corporate identities. Alliances are caught either by article 81(1) of the EC Treaty or by the corresponding provisions in the competition laws of one or more of the national states. Cooperation agreements may include from several to all of the following fiels of cooperation: code sharing, revenue and cost sharing, joint pricing, coordination of capacities, route and schedule planning, coordination of marketing, advertising, sales and distribution networks, co-branding, integration and development of information systems, coordination of frequent flyer programmes, sharing of facilities and service at airports.

assessment to highly complementary airline alliances and mergers that can bring important benefits to passengers by connecting networks, offering new services and generating efficiencies across the aviation value chain. This has to take within a competitive environment. It is crucial that the economic benefits of airline alliances or mergers are passed on to passengers in terms of price, quantity, quality. And the degree of competition left is the best assurance for the pass-on to the consumers (European Competition Authorities, 2004).
Moreover, a general positive approach can't ignore the negative effects that airline mergers and alliances sometimes have on individual markets (in particular for overlapping routes connecting the hub airports of the parties and for point-to-point routes connecting congested airports).
Next paragraphs illustrate the consolidated standards adopted by the European Antitrust authorities (Commission and national competition authorities) when evaluating mergers and alliances in scheduled air transport sector.

4. Antitrust analysis of cooperation and consolidation strategies in the airline industry: a) the definition of the relevant market

A key element in identifying whether a merger or alliance will give rise to competition concerns is the definition of the relevant market. This is a crucial step necessary for any antitrust evaluation; guidelines may help in encoding the definition process that, in any case, should be performed on a case by case basis.[22]

4.1 The product

Passengers purchase scheduled air traffic services between a point of origin and a point of destination (O&D) as the basic product.[23] However, airlines form heterogeneous groups which significantly differ between each others, mainly in relation to (i) the operating model and (ii) the level of service offered to passengers. As to the first distinction, network carriers operate complex "hub-and-spoke" systems, by feeding traffic into their hub airports from where they connect passengers to numerous destinations, while "point-to-point" carriers in principle operate each single route independently from the others. Although the latter are no hub carriers, they normally converge their traffic at certain airports (base airports), where they base a certain number of aircrafts and concentrate part of their connections. With reference to the level of service provided (the qualitative features carriers compete on), some airlines offer ancillary services to the basic transport service (full service carriers), while others focus the commercial offer on the mere transport service, reducing the level of complimentary services (no frills carriers) and operating from/to secondary airports. Usually hub-and-spoke carriers fall into the category of full service airlines, while point-to-point operators tend to be low frills ones.

[22] For a general discussion of market definition issues see European Commission, "Notice on the definition of the relevant market for the purposes of Community Competition law", OJ 97/C 373/03.
[23] It is not useful to identify the distinction between the service dimension and the geographical dimension when defining the relevant market in the air transport sector, since the service has an inherent geographical dimension in it.

4.2 The Origin and Destination approach and the issue of airport substitutability

In line with the Commission's findings, the markets for passenger air transport can be defined on the basis of individual routes or bundle of routes between a point of origin and a point of destination, to the extent that there is substitutability between them for passengers. According to the O&D approach, every combination of a point of origin and a point of destination is therefore to be considered a separate market from the consumer's point of view (demand-based approach to market definition). In case of adjacent airports with overlapping catchment areas, part of the passengers for which the overlapping catchment area represents the origin or the destination of the travel, may consider those airports as substitute when choosing the flight alternatives. The assessment of substitution by competition authorities relies on a number of factors, including the number of potential passengers attracted by the overlapping catchment area, the frequency and schedules of the service at different airports, the difference in the total duration of the journey - including transfer time to terminals[24] –, the difference in the total travel costs and the difference in the quality of service at airports.
The emergence of low cost carriers, focused on point-to-point connections mainly to/from regional airports, postulates a more accurate analysis of airport substitutability for different patterns of passengers, in relation with the possible ways to segment the demand.[25]

4.3 Segmentation of the demand

The demand-based approach to market definition postulates a distinction between different groups of passengers (i.e. segmentation of the demand), since different services may be substitutable for different kind of customers. Reflecting the established practice of EU Commission and competition authorities, the distinction between time-sensitive and non time-sensitive passengers, as well as between point-to-point passengers and connecting[26] ones, is usually assessed. The distinction between time-sensitive and non time-sensitive passengers – which is less and less represented by the distinction between business and leisure travelers, since cost-sensitiveness is growing even in some categories of business travelers – can be of great importance in the competition assessment of mergers and alliances, especially between carriers providing different quality of service (Dresner, 2006).[27]
Generally, time-sensitive passengers, which are not flexible in terms of departure/arrival time, expect faster connections, more frequencies, a higher level of punctuality than non time-sensitive ones, and the possibility to change their reservation at short notice. Non time-sensitive, on the opposite, are interested in obtaining the lowest fares and are willing to accept longer travel time and less flexibility.
The issue of the most appropriate proxies to be used to identify the two subgroups is debated, since data on whether passengers are time-sensitive or not are unavailable. The assessment of the passengers holding restricted or unrestricted tickets could be a guiding principle, although

[24] The Commission usually considers 100Km or 1 hour driving time as a conservative estimate of an airport typical minimum catchment area.
[25] A side-effect of the growing low cost market share of air traffic within the EU might be the likely identification of another category of the demand, the so-called "destination insensitive customers", which can consider to fly to different destinations on the basis of the price, without having an *ex ante* preference.
[26] For connecting passengers a flight between two airports represents only part of their travel and the airport where the connection is made is neither their point of origin nor the point of destination.
[27] As an example, in the case of the merger between Ryanair and Aer Lingus (case M4439), the Commission did not segment the markets in consideration of the similar service offered by the two carriers which operated more than 80% of the routes from/to Dublin.

it needs a case by case implementation (depending on the quantitative information available and the type of airlines involved[28]).
The degree of substitutability between low cost flights and "traditional" services depends on a number of factors other than the "no frill" quality of on-board services and the absence of fidelity programmes. The range of destination served, the airports and the aircrafts used, type of tickets and pricing policies (restrictions vs. flexibility) influence the likely substitutability for different kind of consumers (Gillen-Morrison, 2003).[29]
The issue of airports substitutability has been affected too in a number of cases by the distinction between time-sensitive and non time-sensitive passengers, for national and international air services. Data analysis and the result of market tests show, in fact, that the catchment areas for short haul routes tend to be narrower than those for long haul routes and that airports were less dependent on their main catchment areas for non-time sensitive travellers compared to time-sensitive ones.[30]
As to the distinction between O&D and connecting passengers, the two categories are normally considered to belong to different relevant markets, although the effects of connecting traffic should be taken into account in the overall competition assessment of the affected O&D routes.

4.4 Substitutability with indirect flights and alternative modes of transport

Indirect flights imply more stops and take longer than non-stop flights. This is why they are generally considered more inconvenient and less attractive to consumers. When available, the main factors that determine whether indirect flights may represent a competitive alternative to direct flights - at least for a sub-set of passengers, when they are offered by independent competitors – are the total time for the trip (duration of flights plus connecting time), availability of flight schedules and prices. In general, indirect services are more likely to be substitutable for direct services on long haul flights than on short-haul (e.g. domestic) flights.
Another interesting aspect which is growing in importance, according to recent technological and commercial developments, is the question whether certain alternative modes of transport belong to the same product market of air services. Already in several cases high-speed rail connections have been considered as a possible intermodal alternative to air travel also when time-sensitive passengers are concerned. Despite the dis-homogeneity of rail connections within Europe, the issue will surely become even more relevant as the quality of rail transport grows in terms of speed and frequency available in connecting major cities, in comparison with the longer times spent in the airport due to increasing security controls.[31]

[28] Low cost carriers, in fact, sell restricted tickets to all passengers, choosing not to discriminate on the basis of rules of utilization of tickets.
[29] The issue of whether in recent years there has been a tendency among business travelers towards an increased price-sensitivity needs further analysis.
[30] The question of airport substitutability may arise also with regard to the secondary airports used by low cost carriers.
[31] Cfr. "Air and rail competition and complementarity" Final Report (August 2006) prepared for the European Commission DG TREN by Steer Davies Gleave, available at: http://ec.europa.eu/transport/air_portal/internal_market/studies/index_en.htm.

4.5 Market definition and Supply-side effects

Antitrust market definition firmly relies on a Demand-side approach (on a route by route basis). In fact, following a small but significant and non-transitory price increase on a given route, the customers would not change their travel plans and choose another destination to fly.

Nevertheless for some cases, the mere O&D approach seems to support a fragmented market definition which does not capture all the relevant competition issues involved. Competition between hubs and between alliances as well as the bundle of routes offered by the merging airlines from an airport and the attractiveness of the frequent flying programmes (FFP) could, in fact, (i) play an important role in determining the attractiveness for specific categories of clients (e.g. corporate) and (ii) affect actual and potential competition from that airport.

The issue relates to the role of the supply-side substitutability (or network effects), that can be taken into account when defining the relevant market when competitive constraints from the supply-side affect the range of choice for consumers. This refers to the possibility for competitors to react to a price increase on a given route by entering into competition on that route.

The argument is quite a fascinating one but needs to be handled with care. The outlined competitive constraints have to be sufficiently immediate and effective. If a number of barriers to entry related to investments, strategies and time (from airport capacity to the lack of a well-known brand, to the involvement of opportunity costs from switching assets from one route to another) prevent carriers from reacting to competition by opening new routes, the effect of supply side substitution cannot therefore be regarded as equivalent to demand substitution effects for their effectiveness and immediacy.[32]

Thus, network effects can be considered aside the route by route analysis when assessing the competitive effects of the consolidation (see infra §5) - recognizing that the single O&D markets are not entirely independent from each other and affect actual and potential competition.[33]

5. Antitrust analysis of cooperation and consolidation strategies in the airline industry: b) the competitive assessment

The welfare effects of airline mergers and alliances are twofold. Efficiency gains in terms of cost reductions and quality improvements need to be compared with the risks of elimination or restriction of competition on the affected routes: the network effects of the industry increase the complexity in the competition assessment (Nordic Competition Authorities, 2002).

[32] For a general discussion of market definition issues see European Commission, "Notice on the definition of the relevant market for the purposes of Community Competition law", OJ 97/C 373/03.

[33] More radically, merger-related network effects in terms of market power could be demonstrated more effectively in relation to a market defined as the whole relevant (sub-)network, than with regards to single O&D pairs. In any case, the issue of alternative approaches to market definition or the definition of additional markets in respect to the consolidated O&D markets, still needs to be carefully analyzed at EU level. In the Sky Team investigation, for instance, for the first time the Commission is examining the competition effects of a global alliance in its quasi-totality. The peculiarity of the case can suggest a different approach to market definition Decision is expected in 2008.

The legal test applied in antitrust law in merger and alliance cases is different, laying down respectively in the Merger regulation (EU or national) and in the Article 81 of the EU Treaty, but for the purpose of this paper we can consider the market dominance test (i.e. the creation or strengthening of a dominant position due to the consolidation process) as the basis for establishing whether a merger leads to a significant restriction or elimination of competition.
The general presumption is that both mergers and alliances will result in the total elimination of actual and potential competition between the parties on the routes affected.[34]
Therefore, the antitrust authorities have the duty to ensure that competition on all markets (routes) is maintained. This explains why the assessment of overlapping effects (which affect actual competition) is usually more severe from the assessment of the complementary effects (addressing potential competition issues).[35]

5.1 Market shares as basic criteria for the assessment of market power

From a legal and economic point the key question to be answered is how much competition remains in the market after the consolidation process. A number of criteria should be taken into account in assessing market power, differing in terms of relevance in each case (a check list cannot be automatically applied).
The combined market share of the parties in the relevant markets is, of course, the primary indicator, providing information on the positioning of the parties and their competitors. Different proxies are used when calculating market shares. Besides the actual number of passengers conveyed (O&D passengers carried), the number of frequencies (i.e. the number of slots operated on single routes) gives sometimes a better perspective of the competition conditions on the route, for the strategic value of slot allocation. On the basis of these proxies, market power is more likely to exist if a carrier has a persistently high market share (in terms of absolute thresholds and/or relative to other competitors).

5.2 Barriers to entry

The signalling value of market shares needs further refinements in order to assess the real effects of the merger on competition. As an example, a 60% market share on several O&D markets may lead to different concerns according to different market entry conditions. They are usually sorted in (i) structural, (ii) regulatory and (iii) behavioural factors; each one partially explains network effects[36] (Nordic Competition Authorities, 2002; Commission Decision case M4439 Ryanair/Aer Lingus, 2007).

1. Structural factors mainly relate to slot shortages in congested airports, the number and quality of frequencies (peak hours), the range of destination offered and the access to airport services. In general, structural barriers to entry will be particularly high on markets where the merged entities operate a hub (or base) airport on both ends of the route, since the ability to attract connecting traffic to the airport concerned is a critical

[34] A specific forms of cooperation, namely the "code sharing" agreements, where the scope of the cooperation is limited in respect of fully fledged alliances, are usually evaluated according to different standards (European Competition Authorities, 2006).
[35] With reference to intra-European cases, overlap routes are in general restricted to direct routes.
[36] Besides overlapping, network effects have been normally considered in many decisions by the EU Commission and National Competition Authorities; they usually do not contribute decisively to raise serious doubts as to the creation or strengthening of a dominant position, while they may help in evaluating the impact of the merger on competition.

factor which can make entry particular unattractive on the route in consideration of the fixed costs necessary for the establishment of a base (Commission Decision case M4439 Ryanair/Aer Lingus, 2007).[37] The reputation of the incumbent airline may also act as a significant barrier to entry because new entrants will face sunk costs associated with promotion and brand advertising higher than the established airline which hold a recognizable brand for the majority of the existing customers.[38]

2. Regulatory factors include administrative slot allocation systems, the framework of computer reservation system (CRS), restrictions in bilateral air service agreements still affecting traffic between member States and third countries (other than US), tariff conferences, state aids and eventual pricing restriction for specific flights. A part from the slot availability, which remains the main obstacle to compete, the rest of the administrative barriers are loosing importance due to the liberalization process of the industry and the emergence of internet-based distribution systems.
3. Strategic behaviour (i.e. the reputation of the incumbent as an aggressive player) affects the potential for predatory and retaliation conducts such as strategic pricing, frequency increase, fidelity programmes (such as the pooling of frequent fliers programmes), corporate discount deals, loyalty schemes applied to travel agents.

In the light of this check-list, competition authorities establish, on a route by route basis, which of the outlined conditions of market entry exist and whether market power resulting from these factors is likely to reduce or eliminate competition. As a consequence, mergers and alliances can be accepted even when the parties have a high market shares on overlap routes, providing that there are no barriers to entry and the remaining actual an potential competition is sufficient to influence and constrain the competitive behaviour of the merged entities.[39] On the other side, lower market shares, in presence of relevant entry barriers, may lead to an assessment of market power which requires a prohibition or an authorization subject to remedies.

5.3 The role for "hub" or "base" airport economies and the minimum efficient scale

Carriers benefit from economies of scale and scope when they operate a hub (network carriers) or have a base (point-to-point carriers) in the airport. Sales and marketing costs, customer service facilities and costs associated with flight cancellations would in fact decrease if they are recovered over a larger fleet and a wider portfolio of routes. Moreover, the flexibility (and the reduction of opportunity costs) in switching slots and other assets (such as crew staff) from one route to another, in adjusting the supply to anticipated fluctuation in demand and in managing connections in case of hub airports, increases with the

[37] Moreover, full service carriers aiming at operating routes from major airports seem to face entry barriers which are significantly higher than those experienced in regional airports (e.g. by low cost carriers).

[38] According to the Horizontal Merger Guidelines "…*barriers to entry may also exist because of the established position of the incumbent firms on the market. In particular, it may be difficult to enter a particular industry because experience or reputation is necessary to compete effectively, both of which may be difficult to obtain as an entrant. Factors such as consumer loyalty to a particular brand, the closeness of relationships between suppliers and customers, the importance of promotion or advertising or other advantages relating to reputation will be taken into account in this context*" (Guidelines on the assessment of horizontal mergers under the Council regulation on the control of concentrations between undertakings, OJ C 31, 5.2.2004).

[39] See for instance the EU case KLM/Northwest published in OJ 2002 C 264/11, where the European Commission accepted a combined market share of up to 90% on the direct overlap routes (without imposing remedies), since no significant entry barriers were identified.

size of the base. Large scale carriers may also benefit from a stronger negotiation power in purchasing services from airports, reflecting their greater volumes.
The outlined airport advantages can increase with the size of the hub/base, so that competition effects of the merger will depend also on the scale of the operation carried out by other carriers on that airport.[40] In particular, in the recent case Ryanair/Aer Lingus, a significant effort has been devoted by the Commission to measure the cost economies related to the base (De La Mano, 2008).

5.4 Existing competition

When a merger leads to very high market shares on a large number of overlapping routes, the magnitude of the removal of existing competition between carriers depends also on how much the merged entities were close competitors on the affected routes. The closeness of competition depends on the size and market position, on the degree of similarity of the business model and of the operating costs structure which reflects on price setting. Moreover, time series analysis can show how much the merging entities were reacting to each other commercial strategies in terms of price, frequency and capacity deployment on different routes (see Commission Decision Ryanair/Aer Lingus, case M.4439).
With reference to the competition constraints exerted by remaining competitors, they depend on the difference in the market share and on the real possibility to expand the supply on that routes. The credibility of the competition constraint should be assessed in consideration of the existing barriers as well as of the economic incentives to increase the competitive pressure against the merged entity.
In general, non-base competitors are considered as more vulnerable and less likely to exert a competitive constraint than carriers with a base at the same airport (or, at least, at the destination airport).

5.5 Potential competition

The issue of potential entrants as a competition constraint able to discipline the conduct of the merged entities probably refers to the most difficult and slippery part of the ex ante competitive assessment carried out by competition authorities. How much is the entry by other airlines likely? Moreover, will it be effective in exerting a potential competitive constraint taking into account the size of the market and the demand features? As for the assessment of the remaining existing competition, the focus would be on the existing barriers to entry; a stronger emphasis should be given on the economic evaluation of the incentive to enter new routes where a big competitor is already established, benefiting from advantages in terms of reputation and cost economies.[41]

[40] The Commission has recognized that economies of scale and scope stemming from flexibility of assets at their base and from the ability to spread fixed costs over many markets (routes) constitute a barrier to entry and that a carrier with an established base of operations at a particular airport will benefit from clear cost advantages (Commission decisions, cases M.4439 – Ryanair/Aer Lingus, M.3770 – Lufthansa/Swiss, M.3280 Air France/KLM).
[41] In this context, the Horizontal Merger Guidelines provide that *"… a high risk and costs of failed entry may make entry less likely. The cost of failed entry will be higher, the higher is the level of sunk costs associated with entry"* (Guidelines on the assessment of horizontal mergers under the Council regulation on the control of concentrations between undertakings, OJ C 31, 5.2.2004).

Summing up, to consider actual or potential entry as a sufficient competitive constraint on the merging parties, it must be shown to be likely, timely and sufficient to deter any potential anti-competitive effects of the merger.[42]

5.6 The role for efficiencies

Efficiencies, usually of a technical nature, represent positive welfare effects resulting from the merger or alliance. It is possible, in theory, that efficiencies brought about by a merger or an alliance counteract the effect on competition, and in particular the potential harm to consumers that it might otherwise have.

In order to be evaluated by competition authorities, claimed efficiency have to be verified and quantified. In general, the net welfare effect will be positive if the demand (i.e. passengers) benefit to a reasonable extent from the expected efficiency gains. As an example, efficiencies claimed on the basis of an increasing load factor post-merger need to proved to be transferred to passengers. The competitive pressure exerted from the remaining competitors operating on each route or from a likely potential new entrant is an immediate indicator of the sustainability of a pass-on to consumers, allowing them to share a substantial part of the benefits. In addition, efficiencies should be considered only when a causal connection between the consolidation and the possible benefits is likely (the so-called merger specificity)43. The burden of proof of the requisite standards (verifiability, merger specificity and pass-on to consumers) is always on the merged/allied entity.

Moreover, the general principle exposed in the Commission Guidelines on the assessment of horizontal mergers indicated that "it is highly unlikely that a merger leading to a market position approaching that of a monopoly, or leading to a similar level of market power, can be declared compatible with the common market, on the ground that efficiency gains would be sufficient to counteract its potential anticompetitive effects"44. This can partially explain why the Commission, within the numerous assessments of competition effects induced by mergers and alliances in the air transport sector, has never considered efficiency gains as sufficient to offset anticompetitive outcomes of the consolidation.

[42] According to a recent decision by the Court of First Instance, barriers to entry – considered as features of the market giving the incumbent an advantage over potential competitors – "*may consist in elements of various nature, in particular economic, commercial or financial elements, which are likely to expose potential competitors of the established undertakings to risks and costs sufficiently high to deter them from entering the market within a reasonable time or to make it particularly difficult for them to enter the market, thus depriving them of the capacity to exercise a competitive constraint on the conduct of the established undertakings*" – Court of First Instance, Case T-282/02 Cementbouw Handel & Industrie v. Commission (2006).

[43] The legal framework under which the same kind of efficiencies are assessed is different in case of mergers (EC merger regulation and national merger control regimes, when they take into account efficiency gains) and alliances (art. 81 of the EU Treaty and corresponding provisions of the national competition laws of the member states).

[44] Guidelines on the assessment of horizontal mergers under the Council regulation on the control of concentrations between undertakings, OJ C 31, 5.2.2004.

6. Antitrust analysis of cooperation and consolidation strategies in the airline industry: c) decisions with remedies

It is likely that a merger or alliance will raise particular competition concerns in relation to one or more specific routes, but, in most cases, will not raise significant concerns in relation to the majority of routes affected. In such cases the competition authority faces a trade off between the overall positive welfare effect the merger or alliance is expected to have and the risk that effective competition will not be maintained on every affected route. In this case the appropriate approach is for the competition authority to impose adequate remedies to deal with the competition concerns identified. It is not by chance that many decisions have been taken in the last ten years for cooperative agreements and mergers in scheduled air transport in Europe[45], and just one merger has been prohibited at the EU level.[46]

As a rule, when designing remedies the principle of proportionality has to be taken into account.[47]

With respect to the air traffic sector, the design of remedies which have to be effective in preventing the anticompetitive effects of a merger or alliance is relatively a complex task. The specific features of the markets concerned, in particular the conditions of market entry, usually give an indication as to the possible types of remedies. Firstly, it has to be considered

[45] Just to mention the most recent cases; for mergers: case M.3940 Lufthansa/Eurowings (2005), Case M.3770 Lufthansa/Swiss (2005), Case M.3280 Air France/Klm (2004); for alliances COMP/37.984 Skyteam (under investigation), COMP/37.749 Austrian Airlines / SAS (2005), COMP/38.479 British Airways/Iberia/GBAirways (2003), COMP/38.284 Air France/Alitalia (2004), COMP/37.730 Deutsche Lufthansa/Austrian Airlines (2002), COMP/38.477 British Airways/SN Brussels Airlines (2003).

[46] The Ryanair/Aer Lingus (M.4439) case represents the first antitrust evaluation of a merger between low cost carriers, both operating from the airport of Dublin. It has been probably the first case where the competitive concerns have been analysed according to the "base competition" paradigm. Actual competition has been assessed with reference to the competition constraints exerted from carriers not based in Dublin while the role for potential competition has been evaluated taking into consideration barriers to entry to operate fro Dublin.
In particular four different types of barriers have been highlighted:

1. a "structural" barrier as the shortage of slot to guarantee an efficient entry;
2. a further "structural" barrier as the fixed costs necessary for the establishment of a "base" in the airport;
3. a "commercial" barrier, i.e. the need for a recognizable brand;
4. a "strategic" barrier, which derives from the reputation of the incumbent as an aggressive player.

As a result of the outlined framework the Commission concluded that merger would significantly impede effective competition as a result of the creation of a dominant position on the overlapping routes from Dublin. Moreover, entry has been considered to be not likely, timely and sufficient to constitute a sufficient competitive constraint on the merged entity and defeat the likely anti-competitive effects of the proposed merger, due to the number of important entry barriers to operating flights from or to Dublin in competition with Ryanair/Aer Lingus. These barriers go well beyond the problem of the partly congested airport and are in particular linked to Ryanair's and Aer Lingus' well established position at their home base, and Ryanair reputation of aggressive retaliation against any entry attempt by competitors. A merged Ryanair/Aer Lingus would in fact have had even greater flexibility to engage in selective short-term price reductions and capacity increases, in order to protect its powerful market position, if competitors entered routes to/from Ireland. The likelihood of entry was further reduced by peak-time congestion at Dublin airport and other airports on overlap routes.
Ryanair offered various remedies to solve the competition issues identified. However, the Commission decided that the scope of these remedies was insufficient to ensure that customers would not be harmed by the transaction. In particular, the limited number of "slots" offered was unlikely to stimulate market entry of a size necessary to replace the competitive pressure currently exercised by Aer Lingus.

[47] For a general discussion of remedies in merger cases under European law see European Commission, Notice on remedies acceptable under the Council Regulation (EEC) 4064/89 and under the Commission Regulation (EC) 447/98, OJ 2001/C 68/03.

whether or not the markets affected are characterized by significant entry barriers. In the majority of cases remedies are directed at reducing existing entry barriers and enabling new airlines to enter the market.
As far as mergers are concerned, structural remedies are considered more straightforward than behavioural remedies since they are generally more clearly defined and/or identifiable and easier to enforce.[48] The enforcement experience of the European Commission and the national competition authorities in the airline sector shows that in some cases (including alliance cases) the imposition of structural remedies (alone) was not an option and it has been necessary to impose also a consistent package of different remedies to tackle competition concerns.

6.1 Types of remedies in the air traffic sector

The question of which remedies are appropriate in order to maintain effective competition in a particular case can not be answered in general terms. Rather, the remedies applied will vary depending on the competition analysis in each single case. The following types of remedies, aiming at reducing existing entry barriers and enabling competitors to fostering their position on the market - have been applied in a number of cases:[49]

a. obligations regarding the surrender of slots at congested airports,
b. obligations regarding interlining and code shares (free flow and blocked space agreements),
c. Obligations for the parties to enter into intermodal agreements
d. obligations to open up frequent flyer programmes of the parties to new entrants,
e. obligations to freeze or reduce frequencies,
f. obligations related to price reduction mechanism

a) Surrender of slots

Obligations regarding the surrender of slots at congested airports have been considered by national competition authorities as well as by the European Commission in many cases. Such obligations have been considered to be essential in situations where potential entrants would not have been able to obtain slots at the airport at one or both ends of a route in question through the normal slot allocation procedure. The competition assessments in the air transport cases showed that an open and equal access to airport slots remains the key factor in ensuring competition in the aviation market.
As previously outlined the lack of adequate take-off and landing slots is generally the main entry barrier for potential entrants. The number of slots surrendered needs to be high enough to enable competitors to operate a sufficient number of frequencies on the routes where the anticompetitive effects have been assessed to exercise a significant competitive constraint on the parties.

[48] Under European competition law structural remedies are, as a rule, preferable in merger cases as the Court of First Instance stated in its' Gencor decision (CFI, T-102/96 – Gencor, ECR 1999, II-753, para. 319); see also European Commission's notice on remedies acceptable under Council Regulation (EEC) No 4064/89, and under Commission Regulation (EC) No 447/98, OJ 2001/C 68/03.
[49] In those cases where the remedies imposed on the parties require continued monitoring various mechanisms and procedures may be used. For example, in order to effectively monitor the parties' compliance with the conditions and obligations imposed in the Air France/KLM and in the Lufthansa/Swiss cases the European Commission made a monitoring trustee part of the commitments package.

The availability of slots, in fact, define the contestability of the market. As already discussed, even a monopoly on a bundle of routes can be contestable in case of free disposability of peak hour slots, while a 60% of market share on a given route can identify a dominant position in case of slot scarcity.
With the Air France/KLM merger decision the European Commission updated the "slot surrender" remedy respect to previous alliance exemption decisions in order to give a more durable effect. Firstly, the duration of the obligation to surrender slots is unlimited. Slots may be claimed by competitors at any point in the future, although the parties may be released from the obligation under a review clause. In case of utilization below the 80% threshold, slots are given back to the coordinator and not to the dominant carrier. Secondly, in order to make entry more attractive, under certain conditions new entrants may be able to obtain grandfather rights for the slots released so that, once a new entrant has operated this route for a minimum of a number of IATA seasons, it may thereafter use the slots released at its discretion for any other city pair. This standard, up to now, still represents a guideline.
The current system by which incumbent airlines have “grandfather rights” to slots at congested airports makes it very difficult for new entrant airlines to obtain access to hub airports. It is a case of regulation affecting competition conditions, especially when there is significant excess demand for slots at a number of EU airports. For this reason, slot surrender remains an essential remedy in order to secure effective access to the market for newcomers, notwithstanding difficulties of technical implementation and monitoring and the circumstance for which – being rights not in the ownership of carriers – slots are released for free.[50] Only the recent Commission Communication on the application of Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports finally opens to one-to-one exchange of slots “for monetary and other consideration”. The likely effects of the new opportunities will be experienced in the near future.

b) Interlining and code shares

Obligations regarding interlining and code shares have been used in some cases with the aim of enabling new entrants to effectively offer a higher frequency service. They are useful in cases where a low frequency entrant has to compete with a high frequency incumbent, although their attractiveness to new entrants may be limited by the fact that they involve relying on their competitor to serve customers.
Codesharing can be done on either a “free flow” or “block space” basis (European Competition Authorities, 2006). Blockspace code shares allocate a carrier (the marketing carrier) a certain number or percentage of reserved seats (blocked space) on flights of another party (the operating carrier). Free flow code shares allow the marketing carrier access to the operating carrier’s inventory. The key difference between the two types of code share is that under blocked space arrangements the marketing carrier takes the revenue risk. As this generates increased competition between the marketing and operating carriers, blocked space code shares are likely to be preferable as a remedy.

[50] Even if the market of slots does not exist by law, the antitrust authorities implicitly assess the market power of airlines on the basis of the number of slots (frequencies) operated in congested airports, which is a more correct indicator than the number of pax carried or the number of seat-kilometres. On the Supply-side the availability of slots in congested airports – notwithstanding in which route they are used - is another element that can help in catching the incumbent advantage over competitors.

c) Obligations for the parties to enter into intermodal

Intermodal agreements, in particular with railway companies, have been applied by the European Commission.[51] The aim of this remedy is to promote intermodal competition. The remedy is likely to be effective in markets where other forms of transport are substitutable for air transport, at least for non time-sensitive customers, and it is only likely to be relevant to short-haul routes.

d) Opening up frequent flyer programmes

Obligations to open up frequent flyer programmes of the parties to new entrants have also been applied in a small number of cases. However, such an obligation may involve some disadvantages from the entrants' perspective, as it provides the parties with details of the entrants' customers. Furthermore, as with obligations regarding interlining and codeshares, obligations to open up frequent flyer programmes have the inconvenience for new entrants of requiring them to rely on their competitor to serve their customers.

e) Frequency freeze

Obligations to freeze or reduce frequencies are aimed at preventing the parties from reacting aggressively towards a new entrant, thereby allowing the entrant to become established in the market.[52] Moreover, the positive competition effects of these kinds of obligation must be weighed against possible negative effects on competition that may arise from preventing the parties from responding to changes in the markets. The length of the time period during which the parties are obliged to maintain the frequency freeze or reduction is a critical factor. However, frequency freeze might imply a reduction in the overall number of flights on some routes, with an immediate decrease in the consumers' welfare.

f) Price reduction mechanisms

Obligations involving tariffs have been only applied in a few cases, and not in recent ones.[53] As there is limited experience of such behavioural obligations they need to be applied very carefully on a case-by-case basis. The price reduction mechanism obliges the parties, if they reduce fares on city pairs where entry occurs, to also reduce fares by a similar amount on two or more routes on which they do not face any competition. Nevertheless, as a drawback, such a remedy may promote predation against competitors and recoupment of the margins on other routes where entry has not occurred. Moreover, as some price cuts which would have been introduced in the absence of the obligation might not take place or might be smaller, the price reduction mechanism may stifle competition that would otherwise have arisen from new entry. In any case, due to the fact that pricing in the air industry, at least for network carriers, identify a complex set of tariffs, the price reduction mechanism applied to the average market price involves serious monitoring problems by enforcers.

[51] See cases Air France/KLM and Lufthansa/Eurowings.
[52] See cases Lufthansa/Austrian Airlines and Air France/KLM.
[53] See case Lufthansa/Austrian Airlines.

7. The on going consolidation trend of the airline industry and the likely need to update the Antitrust tools' box

Much of the European airline industry is in turmoil: a promised wave of acquisitions may see big national carriers from Spain (Iberia) and Italy (Alitalia) snapped-up along with smaller companies such as Austrian Airlines, Scandinavia's SAS and Britain's BMI. On the alliance side, instead, calm skies may be easier to find since the strengthening of the three big full fledged alliances is consolidated and the equilibrium could be partially upset only as a consequence of mergers between carriers belonging to different airlines (Dennis, 2005).
In the light of the likely scenario for the near future, along with a mature phase of the liberalization of intra-Community routes, a new season for merger control activity is therefore expected by competition authorities. This should lead to a crucial question in terms of competition policy: does the on-going major changes of the aviation sector (the economics of the industry) require as well changes in the antitrust intervention (the analysis) allowing antitrust enforcers to correctly intervene to preserve a sufficient and effective degree of competition? And how to approach an up-to-date competitive assessment which remains formally consistent with the consolidated jurisprudence of recent case law?[54]
The topic is quite relevant for the eventual impact on future proceedings. In the following, without any supposition of being exhaustive, some preliminary considerations are developed.

7.1 Definition of the relevant markets

The preliminary step of market definition is crucial since it identifies the boundaries of the space where market power can be effectively exerted. The O&D approach revealed to be the most appropriate and solid way to define the relevant market from the demand side at least for horizontal mergers with overlaps, since the supply-side effects can be better caught during the competition assessment.[55] But within the O&D markets, more efforts should be dedicated to evaluate the degree of competition between different air transport services. Is there still a specific demand for unrestricted and fully flexible services which can identify separate markets? More specifically, are low cost carriers suitable alternatives to business passengers knowing that they often operate from less attractive airports and offer fewer frequencies than network carriers?
That questions leads directly to the issue of the segmentation of the demand. The differentiation between time-sensitive and non time-sensitive passengers have been usually solved by groping passengers travelling on "unrestricted" tickets in the first category and the remaining passengers in the group of non-time sensitive. Does this difference hold when fare structures are getting simpler (not only for low costs but to some extent also for traditional carriers)? Moreover, is that distinction still appropriate? In recent years, in fact, market investigations reported that the price-sensitivity of business customers has increased over time due to new possibilities to book cheaper flights with low-cost carriers that, in the meantime, have increased the frequencies on routes between important city pairs to a

[54] A correct competition assessment of structural operations, in fact, should not be entirely based on case law (antitrust cases needs each time a "fresh look"); but deviating from consolidated jurisprudence can be a risky choice to be uphold in front of the Court.
[55] Up to now, in fact, notwithstanding the recent evolution in the application of slot allocation given by the last Commission Communication, a real market of slots availability on single airports, can still not be identified. At least with reference to supply effects, it could provide a better estimation of market power.

relatively high number. The fact that the supply of a new product – such as the no-frills point-to-point air services – has changed the pattern of the demand and its willingness to pay, is, in fact, something that still has not been taken fully into account when defining the relevant market.
Finally, with reference to intermodal competition, deeper analysis is needed on the competition constraints exerted by high speed trains as substitute for air transport services (especially on connection between major city pairs).

7.2 Competition assessment

The degree of competition left after the merger/alliance, and to what extent does it play a competition constraint on the incumbent, is by far the crucial element to be assessed by antitrust enforcers. The proxy of market power based on the market share computed on the number of passengers carried revealed to be a incomplete and weak indicator. It gives no information either on the likely effective competition or on the competitive constraint by potential new entrants. The computation of market shares on the basis of slot availability (frequencies) contributes to a better representation of the competitive scenario taking into account supply-side effects, since slots – due also to a conservative regulation – are the most critical assets to successfully compete especially in congested airports.
Furthermore, a realistic competitive threat – actual or potential – is based on the possibility to operate at a minimum efficient scale on a given route and on a given airport. This has to do with the concept of operation with a base airport - the airport where the airline bases their aircraft(s) and concentrates traffic - with considerable cost savings and increased flexibility.[56]
In recognizing the importance of the operational scale in assessing the effectiveness of the competition constraint, the competitive assessment – and the eventual remedies imposed – should therefore be focused more on the credibility of the competitors' threat than on the number of competitors (i.e. "pluralism" is not always a synonym for competition, especially in network industries). With the consequence that market analysis has to explore also the potential of single O&D markets, not only in terms of the existing barriers to entry, but also on the likely sustainable demand.[57]
With reference to the assessment of strategic barriers to entry, it is doubtful whether the role of reputation effects should be emphasized or not (as in the Ryanair/Aer Lingus case). On one side it surely relates to incumbent's advantages which are not easy to be replicated by competitors, but, on the other, it is closely linked to the concept of "competition on the merits" which should be preserved with appropriate incentives.
A final world on vertical effects. The increasing importance of airports in the operation of the airline business is creating a strong incentive for carriers to integrate with airport services. Requests for dedicated terminals, acquisition of shares in main hub airports or strategic destination bases represent an emerging trend that competition enforcers have to evaluate by facing the trade off between efficiency gains and the risk of increased barriers to entry.

[56] For connecting traffic within Hub-and-spoke networks the "base" airport is properly defined as a hub.
[57] Policies which attempt to force competition between multiple network carriers also on thin routes are based on wrong economics, and in the long term will not contribute to promote a sustainable competition.

7.3 Remedies

According to an economic analysis based on the assessment of the effectiveness of the competition left after the merger/alliance, slot release is by far the most far-sighted remedy, especially in the light of the current regulation on slot allocation.[58] The value of the base/hub for operational economies of the airlines increases the importance of slot availability.

Nevertheless, different implementations of the slot release remedy can lead to different results in terms of market outcomes. A preliminary consideration concerns the scope of the remedies: if they aim at maximizing the number of players on single routes, they could be un-efficient in terms of competition constraints exerted by new entrants. The minimum scale required to compete within a network industry suggests, on the opposite, to give priorities in accessing the released slot to already operating competitors, in order to strengthen their counterbalance power.

Other considerations may be raised when competitive concerns are not strictly "route-specific", but, for instance, related to the profitability of entry in the bundle of routes originating from the base-airport by actual and potential competitors. Up to now, in fact, consistently with the O&D market definition and the competition assessment based on single markets (i.e. routes), remedies have always been be market-targeted; they modify competition conditions on each market where the market power of the merging entities can not be countervailed by competitors.[59] This prevents the risk of a decreasing supply on a given market after the intervention by the competition authority, which would damage consumers in the short run. But in specific cases, especially when the airport cannot increase the capacity, the remedy could be non effective in promoting real competition.

Some suggestions in order to design remedies when crucial supply-side problems arise in limiting existing and potential competition between airlines, can be derived from the Commission decision concerning Ryanair/Aer Lingus hostile takeover, although prohibited. According to the analysis of the case, appropriate remedies should in fact incentive at least one competitor to operate from the base airport where limitations occurs, according to a scale that allows to exploit base economies comparable to those of the merging entities.[60] The risk of such a radical analysis is to evaluate as un-remediable (to be prohibited) a number of mergers due to market considerations other than the technical slot availability; this seems to go far beyond the established procedure of slot release in order to give the possibility to competitors (actual and potential) to enter single routes.

A second question concerns the route-specificity of the remedies. Route specific remedies might in fact reduce the likelihood of new entries and, hence, might make the discipline of potential competition much weaker and less effective. Therefore, if in order to be effective remedies have to be not strictly route-related, they may become inconsistent with the demand-based market definition, by ignoring the routes affected by the merger.

[58] A market oriented regulation for slot allocation – where slots become marketable assets for airlines – could also remove the drawback of a structural measure (the slot release) which has no economic compensation.

[59] The released slots have to be operated by competitors on the same routes where the dominant position has been assessed (destination clause). A partial amendment is the prevision of a fixed period (up to 4-6 IATA seasons) where the destination clause is valid, after which, if fully operated, slots pass in the grandfather's right of the competitor that benefited from release. This specification helps in screening efficient competitors from opportunistic behaviours aiming at cream-skimming.

[60] The case showed that, when the "incentive" is not sufficient (due to market conditions or to the reputation of aggressive player of the dominant incumbent), the remedy is not sufficient to restore competition, even if it gives the possibility to operate with a certain number of slots.

Some of the answers which can be given to these questions might undermine the market definition approach traditionally privileged in antitrust analysis in the airline industry. For instance, if one believes that slot release can be more effective without restricting their use to specific routes (i.e. the overlap routes) it means that market power is wrongly assessed by the traditional market definition. However, an assessment fully based on the availability of slots at the airport level which does not take into consideration the degree of substitutability between different routes from the demand-side, should cope with some distributive issues (as switching capacity between routes) which are not typical of antitrust analysis.

8. Conclusions

Ten years of liberalization for intra-Community routes clearly showed that a competitive regime is the only drive for airlines to reach productive and allocative efficiency in terms of quantity, quality and price. Inefficient carriers, in fact, can only survive when are able to extract rents from captive markets; otherwise, exposed to real competition (also by low cost airlines), can fail or be taken over. That is to say that, in many cases, state protection is a short-sighted strategy (but still en vogue). The model of EU champions gaining quasi-monopolist profits on national captive markets - prevented by real competition - in order to be able to compete in wider international markets, or to enter profitable partnerships with other carriers, are doomed to fail without efficiency gains. National rents, that are paid by citizens, firms and the touristic sector, will in any case be jeopardized by international competition or by stronger and more efficient partners.

Within the evolution of the airline industry, antitrust activity of merger control should remain a technical assessment based on strict legal and economic bases, aiming at preventing the exploitation of market power by dominant airlines through the maintenance of incentives to efficiency. But to be effective, Antitrust enforcement needs to reflect major changes and the new equilibria within the industry. If necessary, this may result in updating the well established tools of analysis, to promote incentives to efficiency within the consolidation process.

Recent cases, in fact, showed that the main issue seems to be the identification of efficient measures to restore competition. If “traditional” remedies are route-specific, since they modify competition conditions on each market, appropriate remedies should encourage at least one competitor to operate from the “critical” airport on a scale that allows to exploit base economies “comparable” to those of the merging entities. To the radical conclusion that, when the “incentive” is not sufficient, the remedy will not be sufficient to restore competition. And this holds even if it allows operation of a number of slots and market share on single markets decreases significantly. That is to say that competitive concerns may go beyond specific market concerns. From another point if the new entrant is allowed to use the released slots on routes different from the overlap routes, an issue of consistency of the measure with the market definition probably arises.

In conclusion, the challenge of designing effective remedies not in contrast with the market definition (or the other way round) in the air transport industry is surely one of the main nodes of modern Antitrust enforcement, taking also into consideration the potentially static effects in terms of quantity on specific routes for consumers. May, otherwise, a splendid inconsistency between market definition and remedies be sustainable any longer?

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a) Mergers (http://ec.europa.eu/comm/competition/mergers/cases/)

Case M.4439 – RYANAIR / AER LINGUS (2007)

Case M.3940 – LUFTHANSA/EUROWINGS (2005)

Case M.3770 – LUFTHANSA/SWISS (2005)

Case M.3280 - AIR FRANCE/KLM (2004)

b) Alliances (http://ec.europa.eu/comm/competition/antitrust/cases/index.html)

Case COMP/37.984 - SKYTEAM

Case COMP/38.284 - AIR FRANCE/ALITALIA (2004)

Case COMP/37.749 - AUSTRIAN AIRLINES/SAS (2005)

Case COMP/38.479 - BRITISH AIRWAYS/IBERIA/GB AIRWAYS (2003)

Case COMP/37.730 - LUFTHANSA/AUSTRIAN AIRLINES (2002)

Case COMP/38.477 - BRITISH AIRWAYS/SN BRUSSELS AIRLINES (2003)