TRENDS IN EUROPEAN AIRLINE MARKETS: COMPETITION, CONCENTRATION AND STRATEGIC BEHAVIOUR

Cristina Barbot*

CETE / Faculdade de Economia do Porto

Abstract

Alamdari and Mason (2006) present a scenario for the European Airlines industry structure for 2010-2015. This scenario displays a high market concentration both in the LCC (low cost carriers) segment and the FSC (full service carriers) segment and goes against what had been intended in terms of deregulation. This paper analyses possible paths towards such a scenario, by means of theoretical considerations and recent trends in several European airlines, and with focus on the strategic behavior of LCCs and its implications to market concentration. We analyze the role of Portuguese and Brazilian airlines in the context of the referred scenario. We conclude that concentration in the low cost segment is more likely to occur than in the large network carriers segment.

* Corresponding author:
Faculdade de Economia
Rua Dr. Roberto Frias
4200 PORTO PORTUGAL
email: cbarbot@fep.up.pt

This research was partially supported by CETE and its financing institution "Fundação para a Ciência e a Tecnologia"

1. FORECASTING TRENDS IN AIRLINE MARKETS: BACK TO THE PAST?

The objectives of deregulation in the air travel industry were related to the increase in competition, the creation of opportunities for new airlines to enter into the market, for a reduction in prices, and for an improvement in the number of operations. In fact, with deregulation many new airlines started operating in Europe, mainly low cost carriers (LCCs).

However, perspectives for the air travel industry in the near future do not seem to meet the deregulation objectives. A very interesting study by Alamdari and Mason (2006) instead suggests that by 2015 there will be more concentration, with fewer airlines, which may cause a decrease in consumers' welfare.

Alamdari and Mason (2006)'s study was commissioned by the European Commission, which suggests that it will be a base for future policy guidelines, and its methodology basically consists of a Delphi Panel approach. Their main conclusions for the European airline industry for 2015 are the following:

1. There will be a concentration in the full service carriers market, and by 2015 no more than 5 large European airlines will be around. Concentration will occur through mergers, acquisitions, alliances and natural growth.
2. Large network carriers will focus on long haul flights and use franchise or alliance partnerships with smaller carriers in feeding traffic.
3. Hub and spoke operations will go on, but there will be fewer hubs as many operations will be substituted by direct flights.
4. Smaller network carriers will have to find niches or act as feeders of large network carriers. But in this market they face LCCs as rivals, so they will have to adopt many of the LCC features.
5. There will be a growth in the low cost segment of up to and over 50% of the demand for intra- European flights, but only 2 or 3 LCCs will be in the market.

What kind of design for the airline industry does this scenario suggest to us?

Firstly, the whole European network will become more rationalized. There will be fewer large carriers focusing on long haul flights and using as feeders other small or medium-size network carriers, or LCCs. Airlines will specialize in one of the two possible market segments: long haul or short haul, and this latter service will be mostly operated in low cost no-frills conditions.

Secondly, in the long haul segment, there will

be fewer firms. Either each one of them specializes in a certain number of routes (for instance, North Atlantic, South Atlantic, Far East) or Bertrand competition with price wars will be around, unless collusive practices, whether open or tacit, take place.

In the third place, medium or small size European carriers will have to find market niches or reach agreements with large carriers, or both in order to keep alive. The AEA (2004) reports that from 2000 to 2003, and for the average of AEA airlines, intra- European routes led to losses while long haul routes were profitable. This means fewer large profitable carriers and a number of unprofitable medium-sized feeders. If these latter are not able to lower costs significantly they will be vanished from the market and only LCCs will prevail as feeders.

The proposed scenario is somewhat disappointing, as it seems to bring the industry back to the regulation period. Perhaps in the deregulated and more competitive market phase, airlines achieved greater efficiency, but the current market structure points to concentration again, and even a stronger one, precisely the opposite of what deregulation intended to promote. Will we be back to the eighties, with fewer large network carriers and LCCs substituting medium-sized airlines?

We intend to analyze a few issues regarding the viability of the proposed scenario. Will the industry be as suggested by Alamdari and Mason (2006)'s findings by 2015? That is a question that no one can answer. But we can analyze the driving forces of this industry and if those forces are likely to be present and active in the future. That is the purpose of this paper. By a dual approach - recent trends through the interpretation of data for the last five years, and theoretical considerations - we intend to enlighten some conditions that may influence the near future of the European airline industry.

In the context of European airline trends, we will make special reference to those in Portugal and will analyze forecasts for the Brazilian air travel industry.

We are aware that such a purpose requires a great deal of research. Therefore, rather than presenting robust conclusions, we will draw main trends, point out possibilities and raise questions that we hope will be suggestions for future research.

2. RECENT TRENDS IN THE EUROPEAN AND BRAZILIAN AIR TRAVEL INDUSTRY

The conclusions of Alamdari and Mason (2006)'s panel point out that concentration will occur through mergers, acquisitions, alliances, and natural growth. With recent data analysis, we will now try to answer the

following questions:

Have the "Big Five" European carriers grown by natural growth in recent years? Is concentration and consequent market power part of their strategy? After all, which companies are growing in Europe? Is it due to natural growth? When and during how much time? Is it due an expansion in capacity, in network, or in both?

What are airlines' strategies and do these strategies pay off?

We analyzed data for the following airlines:

- Three of the five largest European companies, excluding Alitalia, which has experienced a situation of distress lately and Air France, on account of its merger with KLM in 2004. Therefore, the two largest companies (British Airways and Lufthansa) and the smallest of the five (Iberia) were chosen.
- The two largest European LCCs: Easyjet and Ryanair.
- Portuguese companies: TAP Air Portugal and PGA Portugalia Airlines.
- The largest Brazilian companies: TAM and GOL.

Data is presented in tables 1 to 4. As for the largest European airlines, the analysis of these data suggests that: 1) there has not been much natural growth and 2) the companies' strategies seem to differ significantly.

2.1. Largest network carriers

Between 2002 and 2005 British Airways has been decreasing its network and capacity, with a 51% cut in destinations, and a 3.3 % decrease in ASKs. The suggested strategy is of a decrease in size, through a smaller network and less capacity, but with an increase in frequencies or new routes, as destinations fall much more than capacity, probably by substituting Hub and spoke operations by direct flights. A decrease of 21% in its fleet confirms this strategy of "getting thinner", through the elimination of unprofitable routes, and concentration on fewer, more profitable ones. Its plan for the future fleet, with only 10 firm buys to be delivered in 2007 and 2008, intended to replace 10 A320, and 32 purchase options indicates that the strategy will go on. With this strategy, the company achieved a load factor of 76% in 2005, and positive 2002-2005 average profits, higher in 2005.

Table 1: Capacity growth

Capacity growth	ASKs 2005	Growing ASKs 2002/2005	Load factor 2005
BRITISH AIRWAYS	144189	-3,3%	75,60%
DEUTSCHE LUFTHANSA	144182	20,3%	65%
EASYJET*	32141	198,5%	85,20%
GOL PN	13242	162,3%	73,50%
IBERIA	63628	14,8%	77,10%
PGA	1701	26,6%	na
RYANAIR*	36404	158,7%	83,0%
TAM PN	28024	27,3%	70,3%
TAP	20475	15,4%	70,30%

Source: airlines' websites

Conversely, during the same period Lufthansa has increased ASKs (20%) and destinations (14%). The two percentages are not very far apart. It is expanding network and capacity, though at a moderate rate, as well as its fleet (7.9%). The company seems to be planning a fleet increase for the future, with 52 firm buys and 37 options. Its suggested strategy is a moderate expansion of network and size. The load factor in 2005 was of 65%, 2002-2005 average profits were negative, though the company registers positive profits in 2005.

Contrary to Lufthansa, Iberia has increased destinations (22.8%) more than ASKs (14.8%), probably towards smaller frequencies or fewer routes in a larger but less dense network. The increase in fleet has been modest (5.5%), but firm buys and options are relatively high for Iberia's size, when compared with the two previous companies. The suggested strategy is of an increase in network and capacity. A load factor of 77% was achieved in 2005, as well as positive 2002-2005 average profits and 2005 profits.

If we consider the growth of Air France, Alitalia and KLM in recent years, the "Big Five" are not growing so much to eliminate others by 2010-2015, through natural growth. And as Alamdari and Mason (2006) stated, smaller operators, like Austrian and Spanair, and Eastern European airlines have recently grown at faster rates than the largest network carriers. Thus, natural growth does not seem to be a visible trend.

Table 2: Network expansion

Network expansion	Destinations 2002	Destinations 2005	Growth
BRITISH AIRWAYS	300	148	-50.7%
DEUTSCHE LUFTHANSA	327	373	14.1%
EASYJET*	35	64	82.9%
GOL PN	22	45	104.5%
IBERIA	79	97	22.8%
PGA	23	24	4.3%
RYANAIR*	52	95	82.7%
TAM PN	na	47	
TAP	na	41	

Source: airlines' websites

Besides the fact that we had analysed only three of the largest five airlines, recent trends in their behavior indicate that they are pursuing different strategies. A deeper analysis of these strategies and of their compatibilities with eventual mergers would be an interesting topic of research that exceeds the boundaries of our purpose. We will limit ourselves to some theoretical considerations on the possibilities of concentration, in section 3.

2.2. European low cost carriers

The last conclusion of Alamdari and Mason (2006)'s study is rather credible. Recent analysis of Easyjet and Ryanair show an impressive growth as the major component of their performance. Ryanair, is now the largest LCC in Europe and the largest airline carrying UK passengers.

Easyjet during the period 2002-2005 has achieved a significant increase in the capacity (199%) as Ryanair (159% FR), but the expansion of their network is identical, with 83% of growth in destinations for both. Growth seems to be the strategy for Ryanair and Easyjet. The expansion of their fleet (126% for Ryanair and 70% for Easyjet) and their impressive plans for future fleet expansion (firm buys: 255 for Ryanair and 61 for Easyjet, options: 200 for Ryanair and 120 for Easyjet) indicates that there are firmely committed to grow.

As both companies have experimented growth at very high rates, this may mean a greater market power in the low cost market segment. Ryanair has already become the largest European LCC. In addition, this company became more profitable in supporting this strategy. In the low cost segment natural growth seems to be a trend for the future, as

far as we can tell from the studies for these two companies.

Table 3: Increase in fleet

Increase in fleet	Fleet 2005	Growth 2002/2005	Planned 2005 Firm buys	Options
BRITISH AIRWAYS	284	-21.1%	10	32
DEUTSCHE LUFTHANSA	247	7.9%	52	37
EASYJET*	109	70.3%	61 (A319)	120 (A319)
GOL PN	42	281.8%	65 (737)	36 (737)
IBERIA	154	5.5%	36	51
PGA	18	11.1%		
RYANAIR*	95	126.2%	255 (737)	200 (737)
TAM PN	76	-8.4%	29 (A330)	20 (A320)
TAP	41	10.8%	10 (A350)	5 (A350)

Source: airlines' websites

According to Skeels (2005) there were around 60 LCCs in Europe in 2005 (ELFAA, 2005). These airlines either entered routes previously operated by Full Service Carriers (FSCs) or by establishing new routes, linking points that had not been linked before. But will there be room for all? While some of them, like Easyjet and Ryanair, are growing fast, this may occur on account of the increasing demand and also because they increase their market shares. What might be the outcome of such competition? Are there any other hints of concentration in the low fare market segment that might support the forecast of a duopoly by 2015? In section 3, we shall develop this question.

2.3. Portuguese airlines

According to Alamdari and Mason, medium-size or small European carriers will act as feeders for the largest network airlines. They will thus compete with LCCs, what, as we mentioned above, may be a non-profitable business. The other option is to find more profitable market niches.

TAP Air Portugal's strategy[6] illustrates a successful case of market niches. Portugal has an advantageous geographical position for flying South Atlantic routes. On the other hand, Brazil is a very large country and any European passenger who wanted to fly for instance, to North-eastern Brazil had to fly to S. Paulo and then takes a long flight northwards. TAP started operating direct flights from Lisbon to some other Brazilian cities (currently, Fortaleza, Natal, Recife, Salvador and Rio in order to capture European

[6] For a detailed study on TAP's strategy see Button et al (2005).

demand for those places through Lisbon. With the hub in Lisbon these flights are shorter and consequently less expensive. The same strategy was applied to Sub-Saharan Africa. TAP is now starting to develop another hub in Porto, aimed at capturing demand from the well-populated Northern Portugal and Spanish Galicia.

This niche is due to a good geographical position and has led to a whole redesign of TAP's network. The company has exhibited good performance, with an increase in ASKs of 24.2% and in destinations of 13.9%.

Table 4: Profits

Profit before tax million euros	Average 2003, 2004, 2005	2005
BRITISH AIRWAYS	659.6	744.8
DEUTSCHE LUFTHANSA	-42.3	453.0
EASYJET*	87.9	98.6
GOL PN	127.7	183.2
IBERIA	132.0	396.0
PGA	na	na
RYANAIR*	269.7	302.0
TAM PN	81.9	64.6
TAP	14.2	8.7*

Source: airlines' websites

Portugalia is the other Portuguese company, which is dedicated to short haul operations and has asserted itself as a regional carrier, operating in Portugal and in some European countries. The trends in Portugalia's growth suggest an increase in its network density and/ or in its frequencies (increase in ASKs: 26.6%, increase in destinations: 4.3%), rather than the expansion of its network.

Portugalia's market niche is quality[7]. This company may be integrated in the 2015 forecast scenario as a high quality feeder for large European carriers and as a high quality regional operator. However the company does not seem to pay off as the numbers have been registering losses for some years.

2.4. Brazilian airlines

In the first quarter of 2006, VARIG, TAM and GOL dominated the Brazilian market. The three airlines together had 82% of the domestic market and a 96% share in the international market (TAM, 2006). With the collapse of VARIG, Brazil is left with two large airlines with different business models: TAM as a FSC operating both long and short hauls, and GOL in the low cost market, operating short haul flights. In the international market, TAM faces competition from foreign airlines.

TAM displays a behavior similar to an European FSC: during 2002-2005, moderate growth for a young airline (27% increase in ASKs, decrease in fleet, but substituting small aircrafts by medium size ones), while GOL is aggressive like Easyjet and Ryanair,

[7] In 2006, and for the 6th consecutive time, Skytrax survey elected Portugalia as the best European regional carrier.

registering a very high growth (162% increase in ASKs, 282% increase in fleet), but without strong competitors. As a low cost airline, and judging by its plans of fleet increase (65 firm buys and 36 options, all Boeing 737), GOL will go on flying short haul in the domestic or South American international market. TAM's intention of purchasing some Airbus 330 indicates a planned expansion towards long haul intercontinental flights.

The Brazilian domestic market has thus this interesting structure of two airlines competing internally, but with moderate price competition due to their vertical (quality) differentiation. Theoretically, this structure should provide price stability, with each airline as a monopoly in its market segment, unless other rivals enter the industry. This structure is quite appealing as a research topic, namely regarding first movers' advantages within the possibility of other firms entering the industry.

3. THEORETICAL COMMENTS

From the theoretical point of view, what are the chances of achieving Alamdari and Mason (2006)'s scenario? Next, we address this question, focusing on competition and strategic behaviour by European LCCs.

3.1. Towards concentration of European FSCs

Concentration in the FSC segment means fewer firms, no more than five, according to Alamdari and Mason (2006). Following the same authors, concentration will be a consequence of mergers, acquisitions, alliances and natural growth. Mergers and acquisitions are possible paths towards concentration, but there are legal limits, as imposed by articles 81 and 82 of the European Union Treaty. Natural growth hasn't been a trend of the last five years. Quite on the contrary, and as stated before, medium and small size European carriers are growing more than the largest ones. And, as for now, alliances are very far from consolidation or mergers (Iatrou, 2006). They do allow airlines to enlarge their network through code share agreements (which can also be reached outside alliances) and to keep customers through common benefits on frequent flyer programmes, but each airline keeps independent decision-making processes.

Then, some possible processes may lead to concentration, but they all involve competition policy. The EU competition authorities may allow mergers and acquisitions, and/ or they may allow alliances to become cartelised. But this does not seem plausible. After such a long time and trouble

with deregulation towards more competition in the airline industry, why should the EU approve actions that would lead to the opposite effect?

But concentration also means market exit or losses of market share (or market power) by the medium size carriers or, a subservient role if they are feeders of the large carriers. A large airline designs its network conveniently and, by means of agreements with small and medium-sized carriers, leaves to the latter the role of feeders. These carriers have no other option than to adapt their networks to what is left for them. This may (or may not, depend on the situation) be regarded as a predatory strategy. And these small and medium size airlines will be worse-off unless their network is already designed for and their strategy willingly based on the feeder role, or unless they find quality niches, like Portugalia. The scenario becomes more complex if we bear in mind that, as shown above, the role of the intra-European feeder is much less profitable and these airlines will have to adopt a LCC business model and compete with LCCs. But competition with LCCs in Europe is not an easy task, as we shall see below.

The path towards concentration also excludes successful entries by new airlines, and this exclusion is only possible through the existence, or the creation, of barriers to the entrance. What kind of barriers may exist or be created? Cost advantages by scale or density economies? Airport slots? Agreements with airports? Filling the product space by launching all possible routes with high frequencies? Advertising, FFPs, other ways of capturing demand? Though the analysis of the existence or the possibility of these barriers exceeds the scope of this paper.

In brief, the accomplishment of the scenario is, to a large degree, left in the hands of the European competition authorities. If concentration is allowed, the survival of small and medium-sized carriers is threatened and they may be acquired by the largest airlines and so become their subsidiaries.

3.2. European LCCs: Concentration and strategic behaviour?

Here the accomplishment of the scenario is quite plausible. Natural growth of two outstanding LCCs is a reality, and this growth is quite impressive. But when confronting two facts mentioned in the previous section – that there is a proliferation of LCCs in Europe, more than 60 airlines, and there may be no room for all of them, as new European routes and destinations may be exhausted – we conclude that there is room for strategic behaviour, by those who have market power

to practise it, and those airlines are, first and foremost, Ryanair and Easyjet.

We next address this question, by showing three examples of strategic behavior involving Ryanair and Easyjet. The first two are also described in Barbot (2006). These examples show that when there is no room for all someone must leave sooner or later.

3.2.1. Ryanair and Easyjet on the London-Shannon route

An interesting example suggesting strategic behaviour is the London-Shannon route. Ryanair had a monopoly on this route with flights from Stanstead since 1992. In September 2004 Easyjet announced a new route from Gatwick to Shannon, effective from the end of January 2005. Two months later, in November 2004, Ryanair replied by announcing two new routes to Shannon, one departing from Gatwick (and replicating Easyjet's) and another one operating from Luton, both starting in early March 2005, and keeping the route from Stanstead.

If Ryanair had linked the two cities with only one route for thirteen years, it is hard to believe that demand growth was high enough to justify the supply of three additional services in the same year.

By November 2006 Ryanair kept flying to Shannon from Gatwick and Stanstead but Easyjet had discontinued the Gatwick-Shannon route.

3.2.2. Ryanair and Easyjet on the London-Grenoble route

The London-Grenoble route serves French business or leisure travellers to London but mainly British passengers who go to Grenoble for leisure purposes, and, in particular, winter sports. This route was previously operated by charter companies. Easyjet started operating it from Stanstead at the beginning of January 2005, with daily flights. However its monopoly as a regular carrier did not last for long. Ryanair announced, in June 2005, the launching of this route, also departing from Stanstead, and with the same frequency, operations beginning in the following month of September. Meanwhile, Easyjet had moved its departure airport from Stanstead to Luton two months earlier. It is impossible to know which company made the first move, if Easyjet changed first and then Ryanair entered, or if Easyjet knew about Ryanair's intentions and moved to Luton before its rival started operating the route. What is clear is that Ryanair had an advantage in departing from Stanstead, its largest London base, while Easyjet operates at both airports, so it would

not be too costly to move[8].

On July 12th 2005 British Airways announced the launching of seasonal (winter) flights from London Gatwick to Grenoble. Its flights started on December 16th 2005 and would last till the end of March 2006, operating five times a week. In reply, Easyjet announced on July 14th (two days after British Airways' announcement) the launching of a new flight to Grenoble departing from Gatwick, while keeping its flight from Luton.

By August 2006 only Ryanair operated this route on a regular basis. Easyjet's flights from Gatwick and Luton began to be operated seasonally, starting December 14th 2006. This outcome shows two fundamental facts. First, that there was no room for all and Easyjet's strategy was one of product proliferation. Second, that Ryanair won this war, possibly through its pricing strategy. During the low season period, when demand is not enough for three routes between the same cities, it was Ryanair that kept operating and on a monopoly basis.

Barbot (2006) shows that: (i) in the first game, Ryanair could force Easyjet to accept its entry and to move to Luton, because it enjoys a low price firm reputation, or, in Easyjet's eyes, a predatory reputation and that (2) Easyjet does a better job by improving its product (by launching the Gatwick route), but should only keep Luton if Ryanair is in the market, and if Ryanair has a lower quality than its own.

3.2.3. Ryanair and Easyjet on the Liverpool-Krakow route

Easyjet announced this route on March 15th, to start on April 10th 2006 and operating on Mondays, Wednesdays, Fridays and Sundays. Within a month, on April 5th, Ryanair announced this route, to start on October 3rd, and operating on Wednesdays, Fridays and Sundays.

One would expect that Ryanair would complement Easyjet's operation by flying on the remaining days. Instead Ryanair chose exactly some of the same days, probably expecting that the Easyjet operation will not survive Ryanair's low pricing strategy.

3.2.4. The low cost carriers' market segment

Natural growth and strategic behaviour when fighting for new markets and routes or for keeping their monopolies, in a context of possible exhaustion of market niches, may

[8] It is costly to move to an airport where an airline does not operate. The airline has to pay infrastructures like check- in desks. But the main problem is with transaction costs, namely with regard to handling and catering operations.

lead to concentration, and both trends and observed behaviour in recent years indicate that this may be the path.

What happens with competition regarding the other European LCCs? As their number is about 60, studying their competition conditions, amongst themselves and with Ryanair and Easyjet, their market niches and eventual strategic behaviour is quite a long but interesting research topic.

4. CONCLUDING REMARKS

This paper intends to explore the future of the European airline industry, while relating to trends in Brazil. Based on the latest and unique study of the European airline industry's structure by 2015 (Alamdari and Mason (2006)), we analysed the possibilities of reaching the forecast situation by means of recent trends and theoretical considerations.

We find that the forecast for the segment of large network carriers' structure encounters a number of obstacles to be accomplished, namely in regards to the European competition policy.

Conversely, it seems to be quite plausible that by 2015 only two LCCs will be left operating in Europe and probably with Ryanair in a very powerful position and a larger market share.

This paper does not provide a full analysis of the topic intended to explore. But, as we stated in the introduction, our intention was to analyse trends and raise questions, yielding future research topics rather than robust conclusions. Thus our main conclusion is that there is much work to be done with regards to competition and concentration in the European airline industry.

GLOSSARY

ASKs: Available seat kilometres = seats available x distance flown

Bertrand competition: oligopolistic price competition with homogeneous goods

Hub and spoke network: route system in which flights from many "spokes" ' cities fly into a central "hub city".

RPKs: Revenue passenger kilometres = number of paying passengers x distance flown

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