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

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RESUMO
Alamdari and Mason (2006) apresentam um cenário para a indústria da aviação europeia, para 2010-2015. Este cenário contem uma elevada concentração do mercado, tanto no segmento das LCCs (*low cost carriers*) como no segmento das FSCs (*full service carriers*), o que contradiz o que se pretendia com a desregulamentação. Este artigo analisa as possibilidades da evolução em direcção a um tal cenário, através de considerações de ordem teórica e da análise das tendências recentes das companhias aéreeas europeias, com especial incidência no comportamento estratégico das LCCs e suas implicações na concentração da indústria.
Analisamos ainda o papel das companhias aéreas portuguesas e brasileiras no contexto do referido cenário. Concluímos que a concentração sera muito mais provável no segmento *low cost* do que no segmento das grandes companhias aéreas.

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 contradicts what had been intended with deregulation. This paper analyses possible paths towards such a scenario, by means of theoretical considerations and recent trends in several European airlines, and with a focus on the strategic behaviour of LCCs and its implications in market concentration. We analyse the role of Portuguese and Brazilian airlines in the context of the referred scenario. We conclude that concentration in the low cost segment will be much more likely to occur than in the large network carriers segment.

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, allowing for new airlines to enter the industry, and so for a fall in prices and for a larger 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 and consequently a smaller amount of consumer 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 network 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. H&S 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 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? First, the whole European network will become more rationalised. There will be a few large carriers focusing on long haul flights and using as feeders other small or medium-size network carriers, or LCCs. Airlines will specialise 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. Second, in the long haul segment, there will be a small number of firms and almost homogeneous

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services[1]. Either each one of them specialises 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. Third, medium or small size European carriers will have to find market niches or reach agreements with large carriers, or both. If they cannot find niches, there will be a gap in profitability between the two segments. 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 much more profitable. This means a few large profitable carriers and a number of unprofitable medium-sized feeders. If these latter are not able to lower costs significantly they will exit and only LCCs will remain as feeders.

The proposed scenario is somewhat disappointing, as it seems to bring the industry back to the regulation period. Perhaps with deregulation and more competition airlines achieved greater efficiency, but the market structure prospects are of concentration again, and maybe stronger concentration, with all the negative effects of less competition, 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 analyse 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 analyse what the driving forces of such an industry structure are, and if those forces are likely to be present and active. That is the purpose of this paper. By means of two approaches- 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 analyse prospects 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. By means of the analysis of recent data, we will now try to answer the following questions: Has natural growth occurred for the European "Big Five" in recent years? Is growth towards concentration and market power part of their strategy? After all, which companies are growing in Europe? Is natural growth, when it exists, an expansion in capacity, in network, or in both? What are airlines' strategies and do these strategies pay off?

We analysed data for the following airlines:

- Three of the five largest European companies, excluding Alitalia, which has lately experienced a situation of distress 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 H & S operations with direct flights. A decrease of 21% in its fleet confirms this strategy of "getting thinner", by eliminating unprofitable routes and destinations, and concentrating on fewer, more profitable routes (probably long haul). Its plans for the future fleet, with only 10 firm buys to be delivered in 2007 and 2008, intended to replace 10 A320, and 32 options indicate that the strategy will go on. With this strategy, the company achieved an acceptable load factor (76%) in 2005, and positive 2002-2005 average profits, higher in 2005.

[1] Supposing that it is indifferent, for a passenger from, for instance, Amsterdam to Tokyo, to fly through Frankfurt, through Paris or through London.

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 low (65%), 2002-2005 average profits were negative, and profits for 2005 were not high for the company's size. With losses and low profits only moderate expansion can be achieved.

Table 1: Capacity growth

Capacity growth	ASKs 2005	Growth in 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	1700535	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

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 good load factor of 77% was achieved in 2005, as well as high 2002-2005 average profits and 2005 profits.

If we consider the growth of Air France, Alitalia and KLM in recent years[2], the "Big Five" are not growing so much that they will eliminate others by 2010-2015 by means of natural growth. And as Alamdari and Mason (2006) state, 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. Besides, and though we analysed only three of the largest five airlines, recent trends in their behaviour indicate that they are pursuing different strategies. A deeper analysis of these strategies and of their compatibility 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] Increase in RPKs in 2005 was 8.4% for Alitalia and 8.3% for Air France and KLM together. The same increase in 2004 was 10% for Alitalia, 8.3% for Air France and 11.6% for KLM.

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	36	41	13.90%

Source: airlines' websites

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

2.2. European low cost carriers

The last conclusion of Alamdari and Mason (2006)'s study is rather credible. Analysing recent trends for Easyjet and Ryanair, impressive growth stands out as a main feature of their performance. One of them, Ryanair, is now the largest LCC in Europe and the largest airline carrying UK passengers. Easyjet has achieved during the period 2002-2005 a higher increase in capacity (199%) than Ryanair (159% FR), but the expansion of their network is identical, with 83% of growth in destinations for both. The strategy for Ryanair and Easyjet is obviously growth. The expansion of their fleet (126% for Ryanair and 70% for Easyjet) and their impressive plans for the future fleet (firm buys: 255 for Ryanair and 61 for Easyjet, options: 200 for Ryanair and 120 for Easyjet) indicate that their strategy is simply growth. This growth at very high rates for both companies has brought market power in the low cost market segment. However, Ryanair has become larger and plans higher growth for the future. In addition, this company earns more profits to support this strategy. Here natural growth is visible and intended for the future, as far as we can tell from these companies' plans for their fleet.

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 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 so fast, this may occur on account of a growth in demand and also because they earn market shares while competing both with FSCs and amongst themselves. What might the outcome of such competition be? 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.

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

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, or they will find more profitable market niches.

TAP Air Portugal's strategy[3] 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 take 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 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. The niche here is derived from a good geographical position and has led to a whole redesign of TAP's network. The company has revealed good performance, with an increase in ASKs of 24.2% and in destinations of 13.9%.

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 the density of its network and/ or of frequencies (increase in ASKs: 26.6%, increase in destinations: 4.3%), rather than the expansion of its network. The niche of Portugalia is quality[4]. 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. But it must keep its standard of quality in order to differentiate its services and survive.

2.4. Brazilian airlines

In the first quarter of 2006, VARIG, TAM and GOL dominated the Brazilian market. The three airlines together had an 82% share in 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 in different market segments: TAM as a FSC operating both long and short haul, and GOL in the low cost market, operating short haul flights. In the international market, TAM faces competition from foreign airlines.

TAM displays behaviour similar to a European FSC: during 2002-2005, moderate growth for a young airline (27% increase in ASKs, decrease in fleet, but substituting small aircrafts with medium size ones), while GOL is aggressive like Easyjet and Ryanair, registering a very high growth (162% increase in ASKs, 282% increase in fleet), but without close competitors. As a low cost airline, and judging by its planned fleet (65 firm buys and 36

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

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

options, all Boeing 737), GOL will go on flying short haul in the domestic or South American international market. TAM's 29 firm buys of Airbus 330 indicate a planned expansion towards long haul intercontinental flights.

The Brazilian domestic market has thus this interesting structure of two airlines competing in the domestic market, but with price competition being relaxed by their vertical (quality) differentiation. Theoretically, this structure should bring about 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 merger, acquisitions, alliances and natural growth. Merger 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 is not 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 exit or loss of market share (or market power) by the medium size carriers, or, if they are feeders of the large carriers, a subservient role. A large airline designs its network conveniently and, by means of agreements with small and medium-sized carriers, leaves 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, depending 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 entry by new airlines, and this exclusion is only possible through the existence, or the creation, of barriers to entry. 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, here is another interesting topic for future research.

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, their number having reached 60 airlines, and there is no room for all, meaning that new European routes and destinations will soon 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 behaviour 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 August 2006 Ryanair was still operating the three routes and Easyjet kept the Gatwick Shannon route, but only selling tickets up to September 30th, which is not a normal procedure. Will Easyjet discontinue this 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 launch 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[5].

On July 12th 2005 British Airways announced the launch 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 launch 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 better 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.

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[5] 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.

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. However, it is still too early to watch the outcome of this competition.

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 exhaustion of market niches will certainly 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 what regards 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 regard to competition and concentration in the European airline industry.

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