

How Europe's Low-Cost Carriers Sidestepped Traditional Carriers' Competitive Advantages

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**Working Paper No. 1
November 2005**



**Airline Focus:
European Low-Cost Carrier Advantages
and
The Eventual Rise of Contestable Markets**

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TCM Working Paper Series

The Working Paper series for the Center for Tourism and Culture Management (TCM) at Copenhagen Business School deals with service economics and management with a focus on tourism, culture, leisure and aviation, in addition to, the experience economy.

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Frontpage: A Southwest Boeing 737 (© Southwest Airlines), an easyJet Airbus A319 (© easyJet) and an SAS Airbus A321 (© SAS)

Foreword

This particular Working Paper is firmly grounded in the subject of air transportation and its elements, such as, air transport market and industry scenarios, past, current, and future; air transport policy and regulation; air transport economics; airline strategy, management, and operations; partnerships, alliances, and cooperation; airline and airport performance; low-cost carriers and competition; marketing, pricing, and yield management; as well as, other air transport issues that contribute to further knowledge in the field.

Working Paper number 1 contains two articles concerning air transportation: *How Europe's Low-Cost Carriers Sidestepped Traditional Carriers' Competitive Advantage* and *The Airline Industry of the 21st Century – Finally Approaching Contestable Markets?*

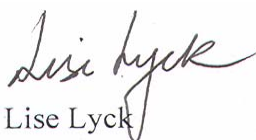
The first Working Paper, by Kristian A. Hvass, attempts to explain how Europe's current low-cost carriers have achieved enormous success in such a short time following their introduction to the market, while in the United States their initial success was noteworthy, yet brief. Incumbent competitors in the U.S. achieved competitive advantage through a number of tools that were able to stymie initial LCC expansion, yet while these same tools were present in the European market they were not able to contribute to competitive advantage among the continent's incumbent carriers.

The second Working Paper, by Knud Kevin Brandt, discusses the theory of contestable markets and its potential breakthrough in air transport. The theory was a main driver for instigating deregulation in the airline industry; however it failed to appear in the industry for a number of reasons. With the changing industrial landscape the theory may be witnessing a resurgence due to simplified fare structures, changing distribution channels, and increasing commoditization.

Kristian A. Hvass is enrolled at Copenhagen Business School as a PhD student at TCM. His primary research topics include business model, strategic, and industrial dynamics, especially within the airline industry. He is a former airline pilot who has transitioned from the seat of the flight deck to the lectern of the classroom.

Knud Kevin Brandt is a research assistant at TCM and enrolled at Copenhagen Business School's graduate program Applied Economics and Finance. Among other aviation related issues he focuses on airline strategy and airline business models. In addition to this he has experience from the travel agency business.

Center Director,



Lise Lyck

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How Europe's Low-Cost Carriers Sidestepped Traditional Carriers' Competitive Advantages

By Kristian A. Hvass, Ph.D. student

Abstract

The initial appearance of U.S. low-cost carriers forced incumbents to create new forms of competitive advantage. These were successful hindrances for nearly two decades. Concurrently, incumbents in Europe implemented similar tools, although within a regulated market. However, Europe's low-cost airlines were more successful and had a greater initial impact in their early years than their U.S. compatriots. This paper will attempt to highlight some of the differences between the two markets and explain why European low-cost airlines had more advantages following their market deregulation and sidestepped traditional carriers' competitive advantages.

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The Airline Industry of the 21st Century – Finally Approaching Contestable Markets?

By Knud Kevin Brandt, Research Assistant, MSc. Student

Abstract

The *theory of contestable markets* in the airline industry proved not work in practice throughout the 1980s and 1990s; main reasons being unanticipated economies of scale in the industry, as well as several entry-barriers such as frequent flyer programs, hub-and-spoking, anticompetitive methods used in sales and distribution etc. Now, however, there are indications that the theory of contestable markets might be looking at a breakthrough. In this paper, three elements in relation to this are looked at: *Transition to one-way based fare structures, growth in Internet sales and distribution and increasing commoditization* – with particular emphasis on the changing fare structures. The conclusion is that these elements indeed help to raise the level of market contestability in the air, however, elements limiting the market contestability still exist, for instance cultural barriers, slot shortages etc. The paper has a focus on the airline industries in the U.S. and Europe.

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How Europe's Low-Cost Carriers Sidestepped Traditional Carriers' Competitive Advantages

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August 2005

1. Introduction

Historical elements have a fascinating impact on today's global airline markets and its actors. It is imperative that past industrial occurrences are studied in order to achieve an appreciation for its intricacies. The U.S. airline industry is commonly used as a comparative market as it is the world's largest in terms of aircraft fleet (6 858 aircraft in 2004), annual revenue passenger kilometers (1 176 billion RPK in 2003), annual number of enplanements (697 million in 2003), and it was the first to be deregulated (1978) (Air Transport Association 2005). This paper will highlight how incumbent U.S. carriers responded to deregulation and the influx of new low-cost carriers (LCCs). Incumbent innovations were able to create competitive advantages, which provided initial relief from competitors, however nearly three decades later the country's initial post-deregulation leaders are suffering at the hands of their young competitors, and some of their earlier advantages have now become obstacles. It is the intent of this paper to conduct a comparative analysis of U.S. experiences to those in Europe following that continent's own deregulation.

Industry structure is dependent upon many factors and government regulation of the aviation industry has had a profound influence. Many countries have been, or are currently, deregulating their aviation markets. The U.S. initiated its deregulation with the Airline Deregulation Act in 1978, which allowed its airlines to adhere and be subject to market forces. The country experienced a growth in new airlines, both low-cost and more traditional carriers, following this regulatory change, however a decade later many had failed, been acquired, or merged. From 1978 to 1989 88 jet-operating airlines were started in the U.S. and 83 failed (Lawton 2002). Between 1978 and 2002 a total of 120 airlines have gone bankrupt in the U.S. (Lawton 2002). LCCs experienced a similar fate. In 1984 4 out of 13 newly formed LCCs had exited the market; by 1988 11 of 14 LCCs had failed (Knorr et al., 2004). Today, only one LCC has survived its

deregulation emergence, America West Airlines¹, which had to reorganize under bankruptcy protection in 1991 and is currently attempting a merger with U.S. Airways.

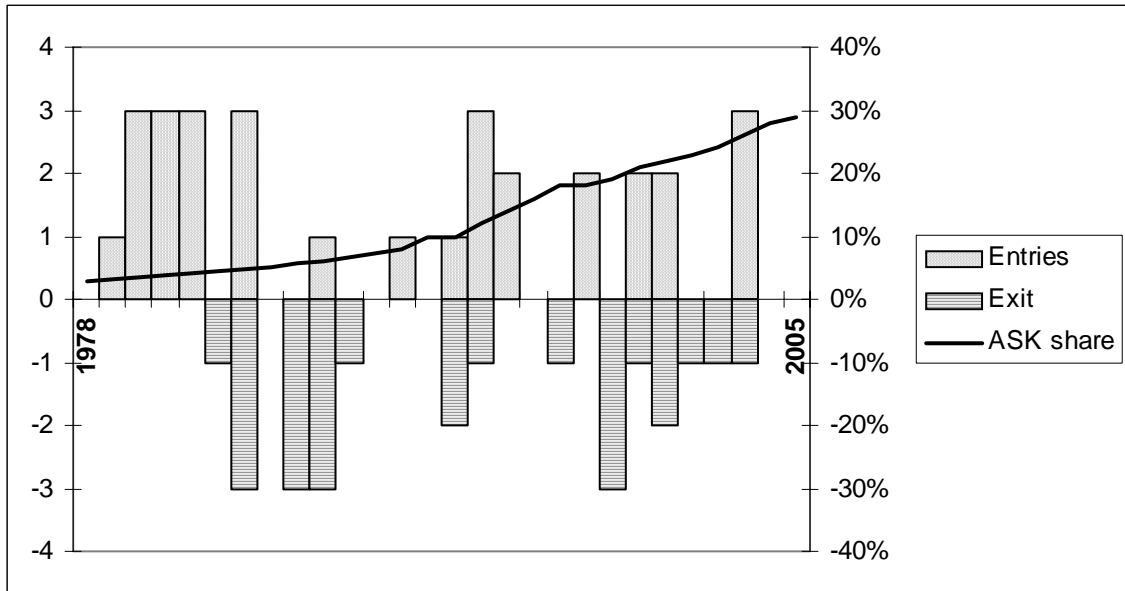
Incumbent carriers used many tactics to strengthen their competitive advantage against new LCCs. They developed computer reservation systems, utilized revenue management systems, reorganized around a hub-and-spoke model, and entered into alliances and partnerships. The first decade following U.S. deregulation can be regarded as the first round of U.S. LCC experimentation. This was characterized by experimentation of organizations and structures, distribution channels, service offerings, and strategic elements and direction. By the early 1990s the second round of LCC entrants arrived, whose influence the market is still judging (Graham 1995; Lawton 2002). These second-generation U.S. LCCs have benefited from their late-mover advantage and avoided the pitfalls of earlier LCCs.

Deregulation development in the E.U. followed a different path and the LCC impact has been greater over a shorter period of time. Rather than a one-step relaxation in regulatory control the E.U. chose a three-stepped approach, implementing the change over 9 years. These were implemented in 1988, 1990, and between 1993 and 1997. By 1993 the main entry and exit barriers were removed, and the final implementation in 1997 granted cabotage² rights, allowing for free competition in the industry (Graham 1995; Lawton 2002; Sinha 2001). Due to the staged E.U. deregulation implementation this paper will utilize 1993 as the point of departure. Five years after E.U. deregulation none of the 6 LCCs founded had failed (Knorr et al., 2004). By 2003 10 of 33 LCCs had failed; a better record than their American counterparts (Knorr et al., 2004). LCC share of available seat kilometers (ASK), or the share of capacity produced by LCCs, is another measuring tool. After 10 years of deregulation in the U.S. LCCs had captured 7% of the nation's ASKs, while in the E.U. it was nearly twice as large by 2003 (Cassotis 2005). Between 1978 and 2005 the average annual growth of U.S. LCC ASKs has been 9%, while in Europe it has been 28% between 1993 and 2005. European LCCs have been more successful at capturing a larger percentage of the overall capacity produced following deregulation and are growing at a faster rate than U.S. LCCs were able. Figures 1.1 and 1.2 (Knorr et al. 2004; Cassotis 2005) provide a comparative depiction of U.S. and E.U. LCC statistics.

¹ Southwest Airlines, commonly mentioned as the grandfather of LCCs, was founded in 1968 and began operations in 1971; therefore it was not a product of deregulation.

² Cabotage allows an airline of one country to operate flights entirely within another country.

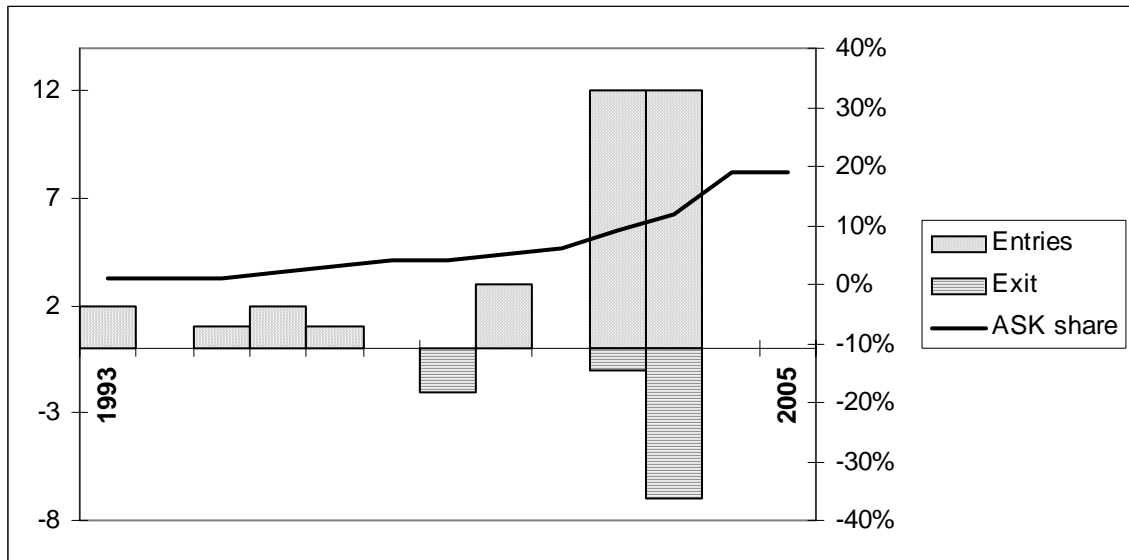
Figure 1.1: U.S. LCC Market Entries and Exits and ASK Market share



¹: Entry and Exit data source is Knorr et al. 2004

²: ASK share data source is Cassotis 2005

Figure 1.2: E.U. LCC Market Entries and Exits and ASK Market share



¹: Entry and Exit data source is Knorr et al. 2004

²: ASK share data source is Cassotis 2005

Statistics such as these have instigated this paper, as incumbent airlines in both continents had similar competitive advantages implemented; yet they were not as successful in Europe in stemming the growth and impact of LCCs as in the early years of the U.S.

To precede, an LCC definition is necessary; although today it is a common airline classification, the term has only recently gained wide acceptance in published works. LCCs provide their service at a lower cost by commonly utilizing a simple price structure, more efficient aircraft utilization, no or limited interlining, point-to-point service, focus on ancillary revenue generation, limited in-flight service, short haul operations, and a common fleet type, which all contribute to a simple brand (Lawton 2002). This definition adapts as the industry progresses, as this paper will show.

This paper is divided into six sections. Section 2 describes the advantages of computer reservation systems and the Internet impact. Section 3 looks at revenue management systems and their evolution. Section 4 discusses geographic differences and the hub-and-spoke model. Finally, Section 5 describes the impact of alliances and LCCs' responses. Section 6 draws conclusions and provides topics for further research.

1.1 Literature Review

Comparative historical and continental LCC literature is limited. Although many works discuss LCCs in detail (Lawton 2002; Franke 2004; Gillen and Lall 2004) none directly compare the two continents and their histories. CRS literature by Taneja (2004), Buhalis (2004), Copeland and McKenney (1988), Pemberton et al. (2001) discuss emerging airline technologies, but not among LCCs. Graham (1994) discusses continental geography and alliances, while Denton and Dennis (2000) look at European franchising, however neither mention LCCs. This paper is therefore an attempt to accumulate the knowledge regarding historical incumbent advantages and an analysis of LCC reaction in both continents. This is not an all-inclusive work, but rather a thought-provoking paper, which will hopefully instigate further research in the topic for improved LCC understanding.

2. Distribution

Computer reservation systems (CRSs) allow airlines to process enormous amounts of data pertaining to reservation, distribution, and information, eventually linking this data to revenue management systems. CRS-creating airlines gained internal efficiencies, competitor and customer knowledge, customer selection bias, and revenue generation advantages. These systems were originally designed by U.S. trunk carriers in the 1960s to facilitate the handling of data related to seat inventory and distribution. The necessary capital investment for such a system was beyond all but the largest airlines, allowing them to offer seat inventory and reservation functions to smaller carriers for a fee. This stage of competitive advantage was derived by increased internal operational efficiencies (Pemberton et al., 2001). After U.S. deregulation CRS-owning airlines discovered the advantage of charging competitors for the right to display their information on the CRS system to facilitate with distribution; the strategy was shifting from internal to external operations. This increased revenue and simultaneously increased competitor costs. Through licensing to display information CRS-owning airlines benefited from access to competitor information. This information was used to improve the owning airline's internal operations, pricing, frequency, etc (Gregory 2000). An added advantage, later addressed by regulatory authorities, was that display information was biased towards the airline owning the CRS system. Ticket agents had a 50% higher propensity to sell flights listed at the top of the computer screen, which happened to belong to the owning airline, rather than search through numerous screens

to find competitors. It was shown that an airline owning their own CRS results in a 13%-18% greater likelihood of selling tickets through their own system (Dempsey and Goetz 1992; Graham 1995). Authorities later responded by requiring CRSs to accurately and fairly display competitors' flight information and addressed unfair practices. The competitive advantages through CRS systems can be summarized in Table 2.1 (Pemberton et al., 2001).

Table 2.1: Advantages of CRSs (Pemberton et al., 2001)

Competitive Advantage	Effect
Operating Efficiencies	Assisted with yield management; time savings; cost savings
Competitor Intelligence	Competitor information via bookings generated on CRS system
Customer Intelligence	Customer information via bookings generated on CRS system
Halo Effect	Extra bookings for CRS owner carrier possible because travel agents were biased towards owning airline
Screen Bias	CRS owning airline influenced consumer choice by hiding competitor information after owning airline's flight information
Revenue Generation	Revenue generated from competitors by subscribing for information and distributing tickets

The lack of an internal CRS resulted in great inefficiencies among new entrants in the U.S. market. Analysts have noted that low-cost carrier, People Express, once the poster child of deregulation success, had failed to install either a CRS or revenue management system, which contributed to enormous inefficiencies and assisted the airline's downfall in 1986 (Dempsey and Goetz 1992; Petersen 2004). Its promotion and sales expenditures were 2 to 3 times greater than other LCCs at that time. Table 2.2 shows the importance of CRSs and how the systems came to dominate the distribution and information channels (Feldman, 1987).

Table 2.2: Percentage of U.S. travel agents using CRSs (Feldman, 1987)

Year	Number of Agents	% with CRS
1977	13454	5
1979	16112	24
1981	19203	29
1983	23059	85
1985	27193	90
1987	29370	95

One year after deregulation nearly 25% of all agents were using a CRS system to facilitate with distribution; this quadrupled within a decade. The early U.S. CRS industry was dominated by two systems, SABRE and Apollo, designed by American Airlines and United Airlines respectively, which were used by 70% of U.S. agents by the mid-1980s (Williams, 1994). Only the largest incumbent carriers were able to successfully develop and implement CRSs, which played an instrumental role in the

continued success of these carriers by forcing new LCCs from the market. The airline industry following deregulation was unique in that a select few of the largest industry actors controlled the distribution of their product through outlets that were independently owned, while competitors became so dependent on CRSs that they had to pass-on highly confidential information to the owning airline.

2.1 Internet Advantage

An LCC strategy did not allow CRS development and sub-contracting the service also had its disadvantages. Not only did they have to pay for system access, they had to divulge proprietary information to competitors. The Internet was the technological revolution that Europe's upstarts had over their earlier American counterparts, and its commercial application appeared simultaneously with European deregulation. This allowed customer-airline interface that was able to single-handedly bypass CRSs and their distribution dominance. Distribution had become a cost-intensive function within airlines. The third highest cost category at British Airways in 2001 was distribution (Buhalis 2004). Newly established European LCCs capitalized by not having invested in complex and resource-draining CRSs; they were free of technological baggage to carry forward (Buhalis 2004). Due to the progression of technology newly started airlines were able to purchase third-party software to match their needs, rather than invest in developing systems internally. Easyjet and Ryanair, Europe's LCC leaders, adopted strategies to capture more and more travelers via the Internet. In 1991 Ryanair transformed itself from a traditional carrier to an LCC; however the airline retained its old CRS distribution strategy until 2001 when the advantages of the Internet were apparent. Prior to 2001 Ryanair's marketing and distribution expenditures were approximately 11% of total expenditures; however, following their change in distribution strategy this has fallen to 3% (Ryanair Annual Reports). Easyjet, on the other hand, avoided CRSs entirely and initially distributed tickets via call centers. The airline experienced increased Internet traffic and the website became interactive to allow ticket sales, and today approximately 90% of tickets are sold via the Internet, well above the industry standard. The founder of Easyjet describes the Internet as a revolution within the industry with an affect greater than the jet engine (Calder 2003). Easyjet's expenditures for credit card purchases and call-center incentives were approximately 3% in 1999, and have been decreasing steadily (Easyjet Annual Reports). Table 2.3 provides a summary of the reasons for LCCs' success in Internet bookings (Buhalis 2004) and an overview of U.S. versus E.U. LCCs and their distribution expenditures.

Table 2.3: Effects of LCC success in Internet bookings (Buhalis 2004)

Internet Impact on LCC Distribution									
Cause of Internet	Effect of Internet								
Simpler product	Often A-B-A itineraries and tickets One class of service Each segment priced individually No pre-allocation of seats								
Simple distribution	Single distribution via own call centers and Internet Financial incentives for online booking No commitment to existing distribution channel members Partnership with off-line, i.e. newspaper								
Advanced CRM and aggressive direct marketing	E-mail and SMS driven customer relationship management Aggressive banner advertising policies Context-based advertising Data and e-mail acquisition through online and off-line campaigns								
Aggressive pricing and yield management	Individual priced seats Minimal fare restrictions Proactive and reactive pricing Provocative pricing starting from offering free flights								
Advanced information technologies	No legacy systems No commitment to GDSs ^a Paperless office and efficient procedures Interconnectivity with technologically advanced partners								
LCC Marketing/Distribution Share of Expenses ^b									
	1982	1983	1984	1999	2000	2001	2002	2003	2004
People Express	13%	14%	13%						
Frontier	8%	9%	7%						
Southwest	10%	7%	6%	7%	6%	5%	4%	4%	3%
Ryanair				11%	11%	3%	3%	3%	2%
Easyjet				11%	9%	7%	7%	5%	5%

^a GDS: Global Distribution System is the transformation of earlier CRSs, which now distribute many travel related accessories

^b Author's own table and calculations from respective airline annual reports

All of Europe's LCCs were quick to incorporate the Internet into their distribution strategies, some more than others. Easyjet initially focused almost exclusively on the Internet, while it took Ryanair some time to gather the courage to make the shift, and Danish Sterling used both channels. This is one element of the greater success of EU's LCCs in the 1990s, over the U.S.'s 1980's LCCs. Its importance is proven by the distribution strategies of the US's second wave of LCCs. Carriers, such as JetBlue, Airtran, and the newly reincarnated Frontier, have also incorporated strong Internet distribution strategies into their operations, while traditional carriers are also moving to distribute more tickets internally rather than through agents.

3. Revenue management

Revenue management is the practice of determining the value of a product at a given time, which has been a vital element in airline management for maximizing revenue. While fares were regulated revenue was collected, not managed; however, following fare deregulation airlines realized the benefit of fare segmentation according to the market (Kuhlmann, 2004). Some passengers were willing to pay high prices, demanded flexibility, and booked close to departure; others were only willing to pay low prices, required less flexibility and booked early, the common distinction between business and leisure passengers. Airlines realized that these two main passenger classifications valued air travel differently and this market segmentation led to the birth of revenue management, with the single goal of maximizing revenue of each seat.

Revenue management systems were a feature that many airlines developed and integrated into their CRSs, as the two programs are complementary. The SABRE and Apollo systems, for example, kept track of availability, prices, and sales of tickets, giving the owning airlines' vast amounts of information. As data was collected the revenue management program was adjusted to work in favor of the airline (Kuhlmann, 2004). Just as CRS development was beyond the financial reach of smaller airlines, so too was revenue management system development. By contracting out CRS functions to smaller competitors, CRS-owning airlines were able to control the information transmitted, thereby restricting any effective internal revenue management at competitors (Pemberton et al., 2001). If an LCC was able to purchase both a CRS and revenue management system they were hampered by incompatibility and industry standards. Through in-house development incumbents could ensure system cooperation, while LCCs struggled to obtain maximum system advantages.

The U.S. incumbent carriers created restrictions, which effectively directed passengers to the highest fare they were willing to pay. Restrictions allowed airlines to squeeze the most out of their passengers' wallets while ensuring availability for the business-traveler. The new U.S. LCCs lacked the revenue management systems of their larger competitors, and those that managed to implement a simplified version of this system lacked the necessary data to maximize its benefit because those very same incumbent competitors commonly controlled the data required.

3.1 Revenue Revolution

As the Internet revolutionized CRSs its impact has also affected revenue management. As distribution was eased the constraints that revenue management was operating under were released; it essentially tipped the scale of power in favor of the passenger. The fare structures employed by incumbent airlines were restrictive labyrinths that challenged customers to find a desired fare and skewed the travel patterns of passengers, all in the name of revenue maximization. New U.S. LCC entrants in the 1980s were unable to manage their revenue due to the lack of a management system and detailed data. The simplified fares that many offered were welcomed by passengers, however other factors diluted this advantage. The distribution capabilities were not as supportive as today; for example, People Express' distribution strategy of selling tickets on board and Southwest's cash registers in the airport as late as the 1990s (Dempsey and Getz 1992; Petersen 2004). Although many start-ups had a fare structure that was innovative and an advantage over their incumbent carriers, they lacked supporting elements to ensure long-term success. Prior to the Internet revenue

management was tipped in the favor of the airline. However, the Internet simplified the travel experience. The effect of this realignment of fare structures and increasing passenger power has led to new expectations. Many passengers have now come to expect simplified and transparent fares, as those offered by LCCs. The Internet has placed the passenger at the center of the transaction, which is in contrast with the traditional revenue management model (Kuhlmann 2004).

By embracing the Internet Europe's LCCs have capitalized in ways that were not possible by their American predecessors. The former chairman of People's Express stated that many of the airline's problems stemmed from the lack of a revenue management system (Kimes 2004). The Internet tipped the balance in favor of the passenger, who, in effect, has become the manager of revenue. With their common single-class offerings and no or limited restrictions, the LCCs are able to simplify their fare structure by pricing seats that more accurately reflect the amount valued by the customer. Passengers can now purchase restriction-less tickets, with few parameters affecting the fare. LCCs have simplified the structures of their fares, classes, and network, which, in turn, have simplified revenue management. Without complex fare structures and a connecting network to support, the tools that traditional carriers use to manage their revenue are bypassed by LCCs through their use of the Internet.

LCCs, both in Europe and the U.S., continue to use and benefit from revenue management; its importance has not been diminished with new distribution strategies or the low-cost model. However, the simplified fares and limited restrictions offered by today's LCCs make revenue management much easier but more important since customer surplus is harder to ensure. Europe's LCCs knew the importance of revenue management and how to complement their new distribution channel with this tool. Second wave U.S. LCCs are utilizing the Internet as a distribution channel and incorporating multiple-class structures, similar to their full-service competitors. The impact of such a strategy on revenue management and competitors has yet to be seen.

4. Operating Model

Geography and its demographics play a vital role in aviation. During U.S. regulation carriers were relegated to a particular region and operated point-to-point routes while the CAB³ ensured competition (Dempsey and Goetz, 1992). Airlines justified operating less dense routes by subsidizing less profitable operations with more dense and profitable routes. Immediately after deregulation incumbent carriers vacated their less profitable routes in favor of those with higher profits. However, competitors, new and old, also entered these profitable routes. The increased capacity resulted in rock-bottom prices and city-pairs that were previously cash-generators became loss-makers (Williams 1994). It became evident that another strategy was necessary to ensure competitiveness.

Airlines realized that rather than point-to-point operations it was more efficient to organize activities in a hub-and-spoke model. In the early 1980s incumbent carriers' networks were reorganized into the hub model. This allowed efficient use of resources and allowed airlines to derive benefits of economies of density and scope; by cross-subsidizing routes with traffic transfers, greater frequencies and destinations were possible. Williams (1994) states that a hub operation offered airlines 5-10% higher load

³ Precursor to the FAA

factors, while offering a greater route network. Prior to deregulation smaller airlines had organized their operations around a hub model and cooperated to a greater extent with local carriers rather than larger airlines. This structure made them better prepared to compete with larger incumbents, especially with their lower cost base, and they were initially more successful. However, as their larger competitors reorganized their operations into the same hub-and-spoke model, their larger network won more customers, eventually forcing out or acquiring the industry initiators of the model (Williams 1994).

Hub airports did exist prior to deregulation, however only 5 have been identified nationally (Williams 1994). A decade later there were 30 airports acting as hubs. Phillips (Williams 1994) showed that between 1977 and 1984 domestic enplanements increased 24% nationwide while at the hubs it had nearly increased 100%; their dominance was secured. A hub model was a tool that allowed incumbents to strengthen competitive advantage and create a monopoly at their hub airports through their control of access, such as gates and slots. Competitors fought to gain challenging market share and struggled to compete. Newly formed LCCs based in an incumbent's shadow at a main airport was severely challenged. For example, Denver's international airport supported two full-service incumbents, United and Continental, and an LCC, Frontier. Frontier was squeezed between two incumbents' larger network offerings, CRS, and revenue management systems. Continental acquired Frontier's owner, the LCC People Express, in 1986, effectively ridding two low-cost competitors and strengthening its two hubs. The larger carriers acquired competitors to establish hub fortresses from coast to coast. Table 4.1 shows the dominance hub operations have had on flights operated by the dominating carrier at their respective hubs (Williams 1994).

Table 4.1: Dominating hub carrier and share of departures (Williams 1994; BCG 2004)

Airline	1978	1986	1988	2003 ^a
American ^b	Chicago 26% Dallas 19%	Dallas 42% Chicago 28%	Dallas 64% Chicago 29%	Dallas 68% Chicago 35% St. Louis 72%
United	Chicago 27% San Francisco 13%	Chicago 35% Denver 16%	Denver 44% San Francisco 40% Seattle 31%	Denver 61% San Francisco 51% Chicago 49%
Delta	Atlanta 35% Chicago 9%	Atlanta 42% Dallas 16%	Atlanta 58% Salt Lake 79% Dallas 26%	Atlanta 79% Salt Lake 72% Cincinnati 92%
TWA	Chicago 25% St. Louis 19%	St. Louis 60% JFK 17%	St. Louis 83% JFK 28%	
Continental	Denver 30% Los Angeles 14%	Houston 44% Denver 36%	Houston 77% Denver 43% Newark 43%	Houston 81% Newark 58% Cleveland

^a BCG 2004 data

^b American Airlines acquired TWA in 2001, and took over the St. Louis hub

Ten years after deregulation the U.S.'s five largest airlines dominated some of the most influential gateways throughout the country. It is interesting to note the rapid increase in share of departures between 1986 and 1988, explained by the alliance phenomenon in Section 5. Due to the national network reorganization LCC entrants

were challenged to be successful. Many were either acquired or forced to cease operations. The successful LCC, Southwest Airlines, benefited from its location at a secondary airport and the Wright Amendment; when LCCs based their operations at a main airport they competed directly with incumbents, which was a struggle due to the dominant position the larger airlines possessed.

4.1 Advantageous Positioning

Geographically, Europe is comprised of 44 countries, but this paper focuses on the 15 that comprised the European Union (E.U.) until 2004. Similar to U.S. airlines that were bound to geographic regions during regulation, European airlines were relegated to their country's borders and centered on the largest cities, commonly the capital. Their operations were constructed around a hub-and-spoke model before American airlines realized its effectiveness. State influence was existent on both sides of the Atlantic, however to different degrees. Although both markets were regulated, European airlines had the added influence and complexity of state ownership and were extensions of government policy, while American airlines were private companies whose market was regulated by the government. Greater state influence affected many aspects of European aviation and can still be felt today.

Due to geographic, cultural, internal, and regulatory constraints Europe's airlines were not able to build a string of hubs across the continent either through acquisition or internal growth. During European regulation there were ownership rules restricting cross-border expansion. Although these restrictions were relaxed following deregulation other complications remain; European incumbents experience strong cultural connections related to a country's airline, even though the E.U. has been one market since 1993. Irish airline, Aer Lingus, attempted to develop a European hub at Manchester in the late 1990s; however the experiment failed, one reason being the public was not accepting of an Irish airline offering travel between the United Kingdom (U.K.) and the European continent (Graham 1995). To overcome this cultural barrier some incumbents started operations in another country with a separate brand or acquired a controlling stake in an established carrier. Overall, the extent of reorganization of networks and resources that took place in the U.S. following deregulation was not experienced in the E.U. in the years after 1993.

LCCs in Europe were quick to establish a main operational base at a secondary airport. This was the first step in avoiding the direct wrath of incumbent competition. For example, Ryanair and Go chose Stansted, while Easyjet went with Luton. All of these airports can comfortably service the London area, yet they do not compete directly with British Airways. However, many LCCs have not limited themselves to a single base in the U.K. Both Ryanair and Easyjet have opened bases across the continent, at secondary airports where possible and appropriate, which is one advantage of their nation-neutral brands. European LCCs were not pushed out of markets by the hub-and-spoke model, by mainly focusing initially on secondary airports complemented with a point-to-point network. LCCs commonly only had one incumbent competitor in their home market, unlike that of the U.S., the experience of Frontier in Denver was not repeated in Europe. The acquisition of LCCs by incumbents as in the U.S. did not occur due to cultural barriers and state influence, leading to an inability to challenge the overall market growth of LCCs.

Another geographic benefit of U.S. incumbents were the multiple hubs of major airlines. With a string of coast-to-coast hubs an American incumbent could effectively

feed passengers into a hub from numerous locations, including other hubs, which was a severe detriment to entrants. In Europe LCCs were less disadvantaged from hub dominance because incumbents were more dependent on the local catchment area than their U.S. compatriots due to their lack of multiple hub locations, and could not provide the same level of traffic density to effectively compete with LCCs.

5. Route Expansion

During regulation in the U.S. airlines commonly interlined and allowed passengers to transfer to other airlines (Dempsey and Goetz 1992). After deregulation cooperation vanished, and with the hub-and-spoke model as an efficient organizational tool and the more city-pairs the model offered the better, it was important to add destinations. This was expensive if attempted organically. Mergers and acquisitions were an alternative and the decade after deregulation was a frenzy of activity. By 1992 there had been more than 150 bankruptcies and 50 mergers in the U.S. The U.S. Department of Transportation approved all mergers submitted to it following deregulation (Dempsey and Goetz 1992), except the United Airlines-US Airways attempt in 2000. To overcome these challenges airlines discovered the benefits of entering into alliances. This added destinations, fed the network with passengers, allowed lower cost operations, strengthened hub dominance, and offered protection from encroaching competitors.

Alliances can be studied from many aspects; this paper segments them as domestic or international. Domestic alliances are commonly between a larger airline cooperating with a smaller airline serving routes between a particular region or hub, while an international alliance is commonly between equal partners servicing different regions of the globe. In 1984 there were few U.S. domestic alliances and no international alliances, however only two years later nearly all of the 50 largest commuter airlines were in domestic alliances with their larger counterparts (Williams 1994). Incumbents had between 4 and 6 smaller partners (Williams 1994). The simultaneous development of numerous hubs and the necessity for passengers helped to support the development of domestic alliances. An airline with coast-to-coast hubs required numerous domestic alliance partners as they commonly operated within a particular region. This was a mutually beneficial situation for both airlines as the major partner gained access to necessary equipment, operational expertise in smaller markets without capital expenditures, and overall lower labor costs, while the smaller partner gained benefits from affiliation with a CRS-owning airline and the expansive route network offered. The increased utilization of airport capacity restricted entrant growth and strengthened incumbent airport dominance. The major airlines began eyeing international expansion, but were hampered by regulations, bilateral agreements, and the challenge of organic growth. The innovative airline of the time, Delta Airlines, initiated the first international alliance in 1989 with Swiss and Singapore Airlines. This shifted the network to a global scale and made the network even more attractive to passengers and made incumbents more competitive.

The impact of developing alliances with domestic regional partners in the U.S. in the mid-1980s helped to strengthen the competitive advantage of incumbents over new LCC competitors. The entrants offered a limited network to their customers when compared to regional affiliates of major airlines with their extensive domestic and international coverage. When LCCs began overextending their network reach by

operating longer and international city-pairs they lacked the necessary passenger numbers to survive (Dempsey and Goetz 1992). People Express' fleet quadrupled to 80 aircraft between 1983 and 1986, to service both trans-continental and trans-Atlantic routes (Graham 1995). This rapid expansion was not supported with adequate passenger numbers. This was the role that domestic alliances were able to fill, aiding in the demise of the first wave of LCCs. With the introduction of international alliances this only helped to strengthen the attractiveness of regional airlines and their product offerings.

5.1 Limited Alliances

Domestic alliances among European incumbents has a limited scope when compared to that of the U.S. Major E.U. airlines were mainly focused on capturing traffic in their home countries and commonly only had one hub to feed, with Germany being the exception (Lawton 2002). Graham (1995) identifies a total of 62 regional airlines in the E.U. in 1994. Three quarters of these are equally based in France, Germany, and the U.K., a symbol of their geographic and population size. The incumbents in Germany, France, and the U.K. had numerous domestic alliances in place. These regional carriers served the same purpose as those in the U.S., hub-feed and servicing high-density hub-bypass routes (Graham 1995). When European LCCs entered the arena they were not as severely hampered by regional carriers allied with their incumbent partners. The partnerships were already established and the LCC entrants could focus on high-density routes not flown by alliance partners. Second, regional carriers suffer the same cultural fate as their incumbent partners; they are primarily limited to their home countries and neighbors. However, this is not to say that regional carriers are not used as lower-cost production tools for operating on thin routes. Third, as discussed previously, European LCCs' main base of operations are at secondary airports, where the impact of regional carriers has been limited when compared to the U.S. experience.

It is these factors that hampered the competitive advantage of E.U. domestic alliances, which allowed Europe's LCCs more room to flourish. The second wave of LCCs in the U.S. has begun to utilize domestic alliances to achieve similar benefits as their incumbent competitors. Simultaneously, Europe is experiencing cross-border, intra-European alliances between equal LCC partners. Both alliance strategies may be appropriate for the respective markets.

6. Conclusion

This brief paper has attempted to touch upon the effectiveness of similar competitive advantages in the U.S. and E.U. airline industries, and the varying impact on low-cost carriers. Incumbent U.S. carriers were able to create competitive advantages with their development and manipulation of CRS and revenue management systems, the creation and fortification of their hubs and networks, and implementation of their domestic and international alliances. Together, these tools were used to defend against LCCs spawned from a deregulated U.S. market. These same tools though were not as effective two decades later when the E.U. created a liberalized market. The Internet and lack of legacy systems allowed LCCs to bypass disadvantageous CRSs, while their simplified pricing, network structure, and third-party software allowed for effective revenue management that was not possible in the 1980's. The geographic layout of Europe did not allow incumbents to create multiple hubs, while LCCs capitalized on their point-to-point model and focus on secondary airports as their base of operations,

and benefited from their nation-neutral brands to more easily expand throughout the culturally diverse continent. European incumbents did not benefit from their domestic alliances as in the U.S., which limited their impact on LCCs. State influence within European incumbents may also have contributed to dampened flexibility when attempting to defend against an LCC incursion. It is these advantages that Europe's LCCs had over their American counterparts when the continent was deregulated. These advantages have led to a greater infiltration of LCCs in the European airline industry and aided in their success, relative to their young age when compared to their American counterparts. Table 6.1 summarizes the U.S. and E.U. incumbent responses versus the U.S. and E.U. LCC.

Table 6.1: U.S. and E.U. incumbent strategy versus U.S. and E.U. LCCs

	U.S. LCC strategy – 1980s	U.S. and E.U. incumbent strategy	E.U. LCC strategy – 1990s
Distribution	Lack of CRSs and dependency on internal sales structure and/or travel agencies	In-house development of CRSs and biased sub-contracting to competitors	Dependency on Internet and phone centers
Revenue management	Lack of revenue management systems; lack of supporting structure for simplified fares	In-house development of revenue management systems and creation of complex fare structures	Simplified fare structures and third-party software complemented with Internet distribution benefits
Operating model	Point-to-point services based at a primary airport	Creation of numerous hubs and network adjustment to hub-and-spoke model	Geographic advantages coupled with point-to-point operations based at secondary airports
Route expansion	Internal growth challenged by rapid over-expansion	Dependency on internal growth, mergers and acquisitions, and alliances to strengthen hub and expand network	Geographic advantages coupled with neutral brands and controlled internal growth
Effect	1980s: LCCs had a limited impact; incumbents were able to benefit from their advantages; "first wave" 1990s: greater LCC impact from second wave in 1990s; strong growth is now predicted; "second wave"	US: 1980s: Incumbent success in stemming LCC expansion 1990s: LCCs' shift in business model allow for greater success EU: 1990s: Incumbents challenged to overcome LCCs' rapid expansion; advantages are not as successful	1990s: LCCs had a greater impact and incumbents gained limited benefits from their advantages; continued strong growth for LCCs foreseen; "first wave" 2005 and on: Possible increased impact; alliances; move up-market; "second wave?"

Additional factors have uniquely influenced LCCs in both the U.S. and Europe that have not been discussed in this paper. Historically, U.S. incumbents practiced aggressive predatory behavior against new entrants, which was more closely watched in the E.U. following their own deregulation. The U.S. has a very large, homogeneous market with a strong visiting-friends-and-relatives (VFR) base, which provides a large segment of travelers for LCCs. This does not exist to the same degree in the E.U. with its relatively heterogeneous market segments. Europe's aviation industry prior to deregulation constituted a relatively large charter industry segment, which was limited in size in the U.S. Some of these charter airlines have made the transition to LCC that influenced the LCC industry segment with experienced entrants. European LCC routes are shorter in length allowing for even greater resource utilization than in the U.S., which greatly improves efficiency. Frequent flyer programs were historically effective competitive tools; however this paper focused on the core advantages and continental differences. Some of these factors could lead to additional research topics. To combine the cultural aspects within the European continent with aviation and LCCs could be a study in and of itself. The development trend among Europe's LCCs compared with those in America is an interesting phenomenon. The U.S. is experiencing LCC encroachment among business travelers, the core segment of incumbent passengers (Jonas 2005). Domestic U.S. alliances with smaller airlines are strengthening LCCs while allowing expansion into smaller markets. Distribution is reaching new channels, circumnavigating traditional CRSs (McDonald 2005). Some past regional partners have emerged as LCC competitors, challenging their earlier partners. These developments may appear among LCCs in the E.U. sooner rather than later. This is possibly the third stage of U.S. LCC industry development, and Europe's second stage. As this paper shows, European LCCs are evolving and having a greater impact at a faster rate than they did in the U.S. Both continents' LCC markets may soon be mirror images of each other.

As the industry continues to develop, airlines are adapting advantages from competitors in an attempt to derive similar benefits. Incumbent carriers are progressing towards more simplified, transparent, and less restrictive fares, while incorporating new technologies and analyzing their hub-and-spoke network offerings. Low-cost carriers are creating more diversified products, establishing alliances, and building numerous hubs to strengthen their positions. Although they may be the fiercest of competitors, much can be gained from each other

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The Airline Industry of the 21st Century – Finally Approaching Contestable Markets?

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When the U.S. airline industry was deregulated in 1978, one of the main arguments for doing so was the assumption that the airline industry – unlike, say, the railroad industry – was not a natural monopoly. Thus, the theory was that it was not possible for an airline to overcharge customers in a particular market, because the natural mobility of the airline industry – at 800 km/hr – would make sure that this could not be done. However, the history of the 1980s and 1990s showed that this “theory of contestable markets” did not work in real life – the airline industry was a lot more complicated than just moving planes between different markets. However, with the far more open distribution structures witnessed today, largely due to the Internet, an increasing tendency towards commoditization within the airline industry, and an increasing number of airlines adopting one-way based fare structures – a special focus for this paper – “the theory of contestable markets”, albeit with more than a 20-year delay, might be looking at a breakthrough.

Since its beginning, the transportation industry has been subject to public regulation – in Europe for a long time through government owned and operated businesses, in the U.S. through regulation of a private transportation sector. So, even in the liberal United States, the transportation industry was considered to have too many externalities in society just to let market forces decide. Among other things, this was the reason for massive regulation of the U.S. railroad industry around 1900 (Dobson, 1995), but other areas of the transportation sector – both on land and at sea – also became subject to regulation.

So, when the aviation industry took off around the end of WWI, the new industry of course became a target of public regulation. And in the same way as had been done with the railroads, the regulation was imposed via government owned and run *flag-carriers* in Europe, and public regulation of a – at least officially⁴ –private airline industry in the United States.

As commonly known, the Americans were the first to liberalize their airline industry, which happened with the *Deregulation Act of 1978*⁵. Throughout the 1970s there had been an increasing pressure to liberalize the airline industry, but there was concern about the externalities to society of making the airlines completely subject to market forces – among other things, the concern arose from mixed results of deregulating huge parts of the railroad industry back in 1958 (Dobson, 1995).

But, as argued by *Alfred Kahn*, often referred to as the father of deregulation, there was a big difference between the airline industry and other areas of transportation – railroads in particular. Because, unlike the railroad industry – and unlike utilities such as water and electricity, both also subject to regulation – the airline industry was not a *natural monopoly* (Peterson & Glab, 1994). It was this natural monopoly that was embedded in the other areas of transportation, which was the main reason for the regulation of them. For instance, electricity was regulated because the shape of the cost curve meant that it was economically wasteful and in most cases impossible to have more than one provider – thus, an electricity monopoly⁶ was preferred from a society resource point-of-view, however, a monopoly was not preferred in general, which is why it then became subject to regulation.

The airline industry, however, was the definition of mobility, the argument went. Thus, the airline industry was the complete opposite of the case of natural monopoly. If premium prices are charged in a market for rail service, it is very difficult, if not impossible, for a competitor just to move a complete railroad to that particular market in order to tap it – and the same goes for electrical power networks, water pipelines etc. Airspace, on the contrary, is an almost unlimited infrastructure – if premium prices are charged in a market for air service between two cities, then competitors will move assets (planes) to that market at 800 km/hr, which makes charging of premium prices (or monopoly prices) impossible in the airline industry. Actually, the mere threat of entry from a potential competitor would be enough to force the incumbent never to

⁴ The American airline industry did consist of private companies, but in the years before the 1970s, the government and the airlines were so close, that it indeed can be questioned how private an industry it was after all (Meyer et al, 1981, Peterson & Glab, 1994). The close relations between government and the airline industry are still seen today on both sides of the Atlantic, although to a lesser degree.

⁵ Actually, the U.S. airline industry was deregulated gradually in the period from 1976-1983, however, with the biggest step taken in 1978.

⁶ Referring to distribution of electricity, of course you can have competing producers.

charge overprices – put another way, the incumbent would act as if there was already competition, although the incumbent might be a monopolist.

This became known as *the theory of contestable markets*, and it was one of the main arguments supporting the deregulation of the American airline industry in 1978. Supporters of deregulation pictured the airline industry as an industry where an unusually high level of competition could be created – the mere threat of competition would be enough to sustain tough competition in an otherwise maybe monopolized market. Airlines that, nonetheless, had the “courage” to charge premium prices in a particular market would instantly be met by competitors moving in capacity to tap the market. When the incumbent then gave up the overpricing, those planes that were just moved to the market to tap it, would (literally) take off again in search of the next markets with premium prices to tap these. This became known as *hit-n-run* (Goetz, 2002), and many people pictured *hit-n-run*-airlines guarding over the airline industry as a flying antitrust police force.

But *the theory of contestable markets* proved to work a lot better in theory than in the real world – and in particular history showed, that the potential threat of entry arising from charging premium prices itself was not enough to discipline incumbent airlines and prevent charging of premium prices. Some of the shortcomings of the theory of contestable markets were fully or partly anticipated before the deregulation in 1978 (Peterson & Glab, 1994), others became evident in the time after (Dempsey & Goetz, 1992). The airline industry was not nearly as simple as anticipated by many of the supporters of deregulation – entering a new market to tap it was far more difficult than expected, because the airline industry was comprised of far more than just moving planes between markets.

Where did it all go wrong?

Throughout the 1980s, in particular, but also huge parts of the 1990s, the anticipated *contestable market* failed to appear. The following gives a brief summary of the major reasons, for further details Fawcett & Farris (1989) and Goetz (2002) is recommended.

First of all, the assumption was that *economies of scale did not exist* in the airline industry – an airline with five aircraft would have the same costs per seat as an airline with 200. While this was somewhat true with regards to *costs* and this actually still is the case in today’s airline industry (Calder, 2003), there indeed were economies of scale with regards to *revenues* – and this was not anticipated.

First of all, a large airline has lots of advantages when it comes to *marketing*; for instance there are many economies of scale in *advertising* etc.⁷ If an incumbent has built up a strong brand, for instance in a home market, it is extremely difficult for a new entrant to build up a name and reputation – also when it comes to promoting the new airline to travel agencies, which, until a few years ago, sold the largest part of tickets by far. The cost of a newspaper ad can be allocated to more flights when the airline is bigger than when the airline is smaller and maybe only has a few services out of town, and while the purchase of an aircraft is not a *sunk cost*, i.e. the money is not gone, if you move the aircraft to another market, the money spent on advertising in a particular market is as good as gone if you leave it – thus a sunk cost – and sunk costs limit the degree of market contestability (Goetz, 2002).

⁷ Advertising, as such, is, of course, a cost, however, since it is directly related to the revenue side, I choose to place it here.

In addition to above, enormous *barriers of entry* began to appear, barriers giving potential new entrants a hard time trying to tap a market and bring in a higher degree of market contestability.

Frequent Flyer Programs (FFPs), which were introduced in the U.S. in the years following deregulation, were among these entry-barriers. FFPs undoubtedly create economies of scale on the revenue side, also in the case when all airlines operate with one – other things equal, who would you rather earn points with; an airline with services to Hawaii or an airline that can take you to a few dull towns in the Northeast? And the choice is not made any more difficult when your company is paying. FFPs are particularly attractive for customers in an airline's home market; i.e. it is of course particularly attractive for Scandinavians to fly with SAS and earn points on their *EuroBonus* FFP, since Scandinavians of course travel a lot within and to/from Scandinavia. Among other things, this has been a main reason for criticism of FFPs from competition authorities almost since the beginning. FFPs have also received a great deal of criticism from tax authorities on both sides of the Atlantic, who are not happy about the un-taxed frequent flyer points of employees.

Another element that made for a huge barrier of entry was the American airlines' adoption of the *hub-and-spoke model*, which indeed limited competition in the air⁸. This further created economies of scale in the airlines' respective home markets, since airlines after deregulation became reluctant to inter-line with other airlines (Meyer et al, 1981). The hub-and-spoke model was therefore, partly, adopted because airlines wanted to maximize the number of possible connections where the customer stayed with the same airline, but also because of more cost-related issues, such as operational advantages of consolidating activities in hubs, now that the airlines had the freedom to choose whichever routes they wanted to serve⁹. Some would of course argue that the main reason for adopting hub-and-spoke was to limit competition, but while this might be true, there were other reasons as well.

With the overall growth in air travel throughout the 1970s, and in particular with the introduction of complicated yield management systems to cope with the increasing demand and the increasing complexity of the ticket system after deregulation, those carriers that both had the market and the money for it developed their own distribution systems, CRSs, today probably better known as *GDSs, Global Distribution Systems*¹⁰. As commonly known, American developed *Sabre*, while United developed *Apollo*. These distribution systems quickly proved to be an enormous barrier of entry for new entrants wanting to serve a particular market.

The GDSs became tools with which the large GDS-owning airlines could crunch other carriers, as well as crunch each other in their respective home markets, where it was almost impossible to find a travel agent that did not use the GDS-system of the local

⁸ To be fair, this did not always have to be the case, particularly in the case of transcontinental services – here, the adoption of hub-and-spoke could actually make competition more fierce in some cases, if customers were willing to fly through a hub rather than nonstop.

⁹ Remember, this was not an option during regulation, where airlines' networks therefore were much more equally spread over the continent, because this was more or less dictated by the authorities. Adoption of hub-and-spoke was therefore tempting for the airlines, not even considering the competition effects, since a rationalization of activities (including hubbing) was much needed after deregulation.

¹⁰ The big U.S. carriers actually wanted to develop a common, unbiased distribution system, that all airlines and travel agencies could make use of, but (ironically, it now seems...) they were not allowed to do so by the antitrust authorities in 1975 (Peterson & Glab, 1994).

carrier – for instance, almost every single travel agent in St. Louis used TWA's GDS, *PARS*, while you would have had a really hard time finding a travel agent in Dallas, a huge AA-hub, that did not use American's Sabre.

The GDS-owning carriers could charge other airlines huge premiums for being displayed and booked in the GDSs, while they also had the option of carrying out *display bias*, i.e. hide other carriers' flights deep inside the system, while showing the GDS-owning carriers flights on the first screens. On top of this, the GDS-owning carriers had access to sensitive information about the competitors who used their GDS, i.e. data on sales etc. Throughout the 1980s reports on dirty tricks involving GDSs also showed up. Dirty tricks included, among other things, manipulating with a competitor's booking data, so the GDS, for instance, showed that a competitor's plane was full, while the plane really might have been half-empty. The regulation of GDSs that came in 1984 brought an end to much of the display bias, but the fact that the big GDS-owning airlines still had a lot of power over the others, and that they effectively controlled their respective home markets, still remained (Peterson & Glab, 1994).

An issue which in the 1980s and well in to the 1990s also created huge economies of scale on the revenue side, and for all practical purposes functioned as a barrier of entry, was *TACOs – Travel Agents' Commission Overrides*. With *TACOs* airlines paid bonuses to travel agents if they reached a specific sales target on the TACO-paying airline – a sales target that, for instance, could be *90 % of all bookings made by the agency*¹¹. This of course gave the travel agents an incentive to book the TACO-airline, even if this airline did have some competition. Along with the GDS-dominance, the big American airlines paying *TACOs* had the travel agencies locked in a *golden handcuff*, as expressed by Peterson & Glab (1994). Because many airlines in recent years have cut back heavily on ordinary commissions paid to travel agents, *TACOs* have only proven to be even more limiting to competition, since they now often provide the only revenue for travel agents (Goetz, 2002 and GAO, 1996)¹².

Together with the above mentioned economies of scale, barriers of entry etc. the big *trunk carriers*¹³ like American, United and Delta had – and still have – another advantage of being the first-movers, namely, in relation to *slots* and *gates*, which started to be in short supply already in the 1980s – primarily in the East and Upper-Mid-West¹⁴. Since re-distribution of slots has proven very difficult, it is very hard for new carriers to enter a slot constrained market (GAO, 1996). In itself, this has limited the degree of market contestability – there might be airspace enough in most cases, but it is not at all always given that there is capacity enough on the ground.

¹¹ This might sound unrealistic, but this number is not just drawn out of a box – when Denver-based *Frontier* decided to pull out of for North Dakota markets in 1995, the main reason, according to the airline, was that travel agents only received their bonuses if more than 90 % of their total bookings were made on the TACO-paying competitor's flights, and that was, of course, more or less impossible to put up with, if your main sales channel is the travel agencies.

¹² However, in recent years travel agents have often added a service fee to compensate for the smaller (or completely absent) commissions.

¹³ (Somewhat) an American counterpart of the European flag-carrier – traditionally, a trunk airline was a carrier that was granted permission to fly revenue services with the Civil Aeronautics Act of 1938. Originally, 16 carriers were granted permission. Sometimes the term *legacy carrier* is used, however, this word has a slightly wider interpretation.

¹⁴ This was in great part due to the previously mentioned adoption of the hub-and-spoke model. In order to offer attractive connections, airlines had to schedule as many planes as possible to be at a particular airport at the same time, which created congestion problems.

Together with the large carriers' ownership of slots, they also leased gates at airports on very long-term contracts, particularly in the 1980s, which too limited the entry possibilities of new carriers. If an airline nonetheless wanted to lease an incumbent's gates, this was only possible at premium prices, and often a gate-lease also came with an obligation to use the incumbent's ground handling, maintenance service etc. – and, more generally, an obligation not to get in the way of the incumbents schedule. For instance, the low-fare carrier *JetTrain* was only able to lease United's gates at Newark if the airline's schedule did not compete with that of United. Another example was the case of low-fare airline *Vanguard* that was only able to lease TWA-gates at Minneapolis/St. Paul if the airline used TWA's maintenance service (GAO, 1996).

The above mentioned issues, such as the economies of scale and the huge barriers of entry, caused the anticipated intense competition in the U.S. airline industry to stay away after the deregulation in 1978 – the *contestable market* simply failed to appear in most cases. However, there are now indications that some of the entry-barriers, economies of scale etc. are eroding. This is, among many other things, mirrored in the success of the European low-fare carriers after the mid-90s¹⁵ relative to their American counterparts in the period after 1978 (Hvass, 2005a). For now, however, these indications will be left for later. In the next section, a subject not mentioned a great deal in the general aviation "debate", but nonetheless an important one with respect to market contestability, *fare structure*, is considered and analyzed.

¹⁵ The period of deregulation in Europe.

The effect of the fare structure on the market contestability

After the deregulation of the U.S. airline industry in 1978, which, among other things, brought with it the freedom for the airlines to set airfares, a garden-variety of restrictions on airfares started to show up. These restrictions were introduced by most airlines in order to try and maximize potential revenue from lucrative price discrimination, and with marginal costs just hovering above zero; price discrimination was particularly profitable (as noted by for instance Kahn, 1988). This brought with it a *return-based fare structure*, which soon became the rule rather than the exception. The consequences of this, in relation, to market contestability has not been paid a lot of attention, at least not to the knowledge of the author, which is why it deserves a dedicated section in this paper.

The return-based fare structure meant that airlines could impose restrictions such as minimum/maximum stay, Saturday-night stay-over etc. in an attempt to segment the business travelers with high willingness to pay from the leisure travelers with lower willingness to pay¹⁶. This was not possible with a fare structure based on one-way tickets. However, the return-based fare structure also meant that by far the largest part of the passengers¹⁷ - except walk-up passengers, who paid full fare anyway - were forced to stay with the same airline both going out and coming back if they wanted to get a discount on the full fare, which was the case for the vast majority of the passengers.

With this reasoning, it is the author's belief that a return-based fare-structure is able to keep customers tied to a particular airline just as well as FFPs, TACOs etc.

The reason is that a fare structure based on return tickets means, that if you want to enter a city-pair market and compete with an incumbent carrier, then it is necessary for you to offer a high frequency of services in order to make your airline attractive, especially for business travelers. What this actually means is that a new entrant is forced to drastically increase capacity in the particular market, and maybe even more than the market can bear. Perhaps this is better viewed with an example:

Between two cities, airline A has a service three times daily - morning, noon and evening, seven days a week¹⁸ - and it is the only carrier on the route. The flight takes two hours, and the airline operates with a return-based fare structure. Airline B also operates with a return-based fare structure, and B would also like to start service between the two cities in competition with A. Airline B has the necessary capacity to start the service.

In the example we assume that airlines A and B are alike in all senses - same aircraft, same costs, no one has connecting traffic in either end of the route, no one has TACO-deals with travel agencies, no GDS-bias, no FFPs, no free champagne on board etc. On top of this, we assume that none of the airlines engage in price dumping or other, similar "unfair" ways of competing. What are B's options?

Well, the fare structure is return-based, so if B wants to attract some substantial traffic, which means that the traffic does not just consist of random walk-ups and very flexible students with very low willingness to pay, a single, daily roundtrip would be a minimum. However, while this single roundtrip might attract a significant part of the leisure-segment, as well as some more flexible and price-sensitive business travelers, it is probably not enough to lure the gold - for instance business passengers going on a

¹⁶ This is sort of the "classic" or "textbook" way of looking at it, it is of course more complicated.

¹⁷ Including business passengers not being in the absolute top-end.

¹⁸ For this, I'll ignore other travel patterns Saturday and Sunday.

trip for the day. It is a 2-hour flight; with the morning departure out and returning on the evening flight, it is possible to have a fair business day at the destination. So, if B wants to be a serious player in the market, the airline would have to offer a minimum of two daily roundtrips, or 14 a week. And even then, the airline would still not be as attractive as A, which still boasts a noon flight.

Altogether, this means that if B wants to enter the market, it is minimum 14 weekly roundtrips – or *nothing*. But this is the same as saying that it is a capacity increase in the market of 67 % – or *nothing*. Then the question is of course whether the total market can bear a 67 % increase in supply at all, or whether this would just mean a loss for both airlines. If the latter is the case, it means – at least, in theory, and bearing in mind the assumptions – that A can keep its monopoly as well as its charging of premium prices on the basis of the fare structure *alone*. Put another way, A can keep its monopoly without having GDS-bias, TACOs, FFPs, connecting traffic etc.

Now, the question that might spring to mind is, if the market is not big enough for airline B to embark on a return-based fare structure, why does not the airline just put in fewer flights, but with a one-way based fare structure instead? This has been done by many new LCCs in order to attract travelers tired of complicated fare-structures and endless restrictions. Well, B can do just that, however, this does not change the fact that B still would not be able to attract a significant part of the profitable business travelers, because A glues its customers to the airline both going out and coming back through the airlines' return-based fare structure.

Examples of this are many – if a low-fare airline starts service on a route which is already serviced by one or more incumbent carriers with traditional (return-based) fare structures, most of the time this does not change the latter's fare structures¹⁹. In these cases, the often low number of departures offered by an LCC relative to that offered by the incumbent traditional carrier has not been big enough to steal a critical number of particularly business travelers from the latter, which is why the incumbent often has chosen not to change its fare structure in a situation like that. *However*, this has been turned upside down when an airline with high frequencies on a particular route has shifted to a one-way based fare structure, as for instance SAS did recently on European routes. In these cases, other airlines with return-based fare structures have often been forced to loosen up their fare restrictions in order to keep up, because of the larger scale – but more on this in the next section.

Summing up, it is the author's belief that the return-based fare structure indeed has played a vital role in limiting the possibilities of a contestable market in the air. The return-based fare structure can be compared with *tying*, i.e. bundling one product to another, a practice also often regarded as limiting to competition. A good example is found in the well-known Microsoft Office software pack. If you want a text program, Word, you have to buy a spreadsheet program, Excel, along with it, even though you might not need a spreadsheet program (*return ticket*), or it does not fit your particular needs when it comes to spreadsheet programs (*your needs in relation to a return flight*). The same goes for the return-based fare-structure. If you want to buy an outward flight that suits you well, you have to buy a return flight on the same airline as well, which might not suit you²⁰, and therefore you would rather by the ticket elsewhere – if at all²¹.

¹⁹ But, of course, often prices.

²⁰ Either in relation to price, time of departure etc.

Transition to one-way based fare structures

To illustrate the consequences of a return-based fare structure we can look at a market like Copenhagen to Berlin. Until a few years ago, SAS and Lufthansa had the route entirely to themselves, and with extensive code-sharing on each others flights and further cooperation through the Star Alliance, it probably would not have been wrong to regard it as a sort of monopoly. SAS/Lufthansa, like all other traditional airlines or flag-carriers, made use of a complicated return-based fare structure on the route. It is probably fair to say that the air fares charged by SAS/Lufthansa on the route carried a premium related to the lack of competition, however, with a modest distance between the two capitals; roughly six hours by car including a two-hour ferry journey, the premium probably could not have been too vast. Saying all this, there was obviously room for market expansion if lower airfares arrived in the market.

But in order for a new entrant to stand up against SAS/Lufthansa and their return-based fare-structures, it would require at least two or three daily round-trips – not even mentioning that, on top of this, the new entrant would have to fight against the two flag-carriers' (joint) Frequent Flyer Programs, connecting traffic, possible use of predatory pricing etc. It is obvious, that if a potential new entrant faced all this, the level of market contestability would indeed have been limited.

When the low-fare carriers entered the European airline markets during the latter half of the 1990s, one of the ways in which they tried to lure new customers was the complete absence of fare restrictions – on a given point in time there was one single price for a particular route and time of departure; no such things as Saturday-night rules, minimum stays and heavy penalties for flying outbound and inbound on different airlines. Many start-ups in the U.S. after 1978 also made use of this simple, non-restrictive fare-structure, as did Sir Freddie Laker's *Laker Skytrain*, which offered low-fare services across the Atlantic from 1978 to 1983²². But while the big traditional airlines succeeded in defeating the new entrants and their simple fare structures in the 1980s, and thereby succeeded in keeping their complex fare structures, this has not been the case in recent years²³, which has forced traditional carriers to revise their fare structures.

On many routes the big traditional airlines have now gradually chosen to give up on the very restrictive fare structures. Without going into details, this is partly due to competition from low-fare carriers with simple, one-way based fare structures, and it has probably also been done to prevent low-fare competition from starting up in the first place²⁴. In recent years, a much more sporadic travel pattern has also emerged – it is no

²¹ Of course it is possible to buy a one-way ticket in a return-based fare structure (maybe it is possible just to buy *Microsoft Word* as well), but in most cases a one-way ticket will be more expensive than a return ticket.

²² In the author's view, however, Laker made the mistake of taking the simplicity a bit too far. For a long period of time there was one single, fixed ticket price up to the time of departure, which made it completely impossible to price discriminate in relation to time of ticket purchase, something that all airlines, including the LCCs of today, make use of today in order to survive.

²³ This has in great part been due to the Internet and the completely different ways of distribution witnessed today, a subject taken up in the next section.

²⁴ This bears resemblance to the previously mentioned *threat* of entry, which was not enough to discipline airlines on monopoly-like routes in the U.S. in the 1980s. However, with the transition to one-way based fare structures, this threat has become much more real, and apparently real enough to discipline many airlines, even on monopoly routes.

longer the rule that leisure travelers always travel outbound on a Friday and back on a Sunday, always book a hotel along with the air ticket and always travel outbound and homebound to/from the same city, which makes it a lot more difficult to segment passengers this way, i.e. segment those with high willingness to pay from those with low willingness to pay with respect to travel pattern.

The joys of one-way based fare structures

The adoption of one-way based fare structures by more and more airlines indeed has its advantages if you are a budget-minded leisure traveler without a “classic”, simple travel pattern – and the number of these leisure travelers is sky-rocketing. People are getting more and more “creative” when it comes to traveling, and flying around to visit different places in one holiday instead of, say, renting a car to do the same, has become increasingly popular in Europe – no doubt in great part due to the one-way based fare structures adopted by many airlines.

Just to give an example, I wanted to go two places last June: London and Brussels – London to visit my brother, Brussels to visit a friend. Now, five years ago I would not have dreamed of visiting both on the same trip – the prospect of having to buy three one-way tickets would have been horrifying. But this June it was not a hard choice, since one-way tickets were offered on all three legs: Copenhagen-London, London-Brussels and Brussels-Copenhagen.

So, I flew Maersk Air from Copenhagen to London Gatwick, SN Brussels Airlines from London Heathrow to Brussels (on a British Airways-operated flight by the way), and SN Brussels Airlines from Brussels to Copenhagen. Total price: Around 240 Euro – on top of this bearing in mind that I booked only 14 days in advance. What would have been the price with a return-based fare structure? My best guess: Around 2.000-2.500 Euro, or about 10 times as much. However, in that case I would have bought return tickets on all three legs and thrown away the left-over coupons, probably leaving me with a total price of around 5-600 Euro and the airlines with one empty seat each. So, one-way indeed has its joys.

With leisure travelers showing more and more complex travel patterns, and travel patterns of business and leisure travelers showing more and more resemblance, it has almost come to the point where it is only possible to discriminate with respect to time of ticket purchase. Here, the general rule is that business travelers, or travelers with high willingness to pay in general, tend to book closer to departure than leisure travelers, however, not even this is “sacred”, since more and more leisure travelers tend to book close to departure.

In addition to all this, another reason for abandoning the very restrictive fare structures could simply be that customers have started to get really tired of them after the LCCs have shown how simple it can be done²⁵.

²⁵ In the mind of an “ordinary” leisure traveller it can of course sound as an entirely positive thing that more and more airlines offer one-way tickets and simple fare structures, but since this at the same time increases the business travellers’ possibilities of paying less than they are actually willing to, this could – other things equal – mean that in the long run leisure passengers could actually end up paying more than under the “regime” of the return-based fare structure. This is because airlines in their yield optimization process now would mix together the demands of leisure- and business travellers. Among other things, this was one of the arguments of not recommending legislation against allegedly completely unreasonable restrictions on air fares in the U.S. back in 2001 (GAO, 2001). When the U.S. airline industry was deregulated in 1978, many observers believed that business travellers lost while leisure travellers won – it just might be that the transition to one-way based fare structures could reverse this.

Whatever the reasons, the transition to one-way based fare structures has meant that it has become a lot easier to enter a market and tap it for possible profits – and in this way, the level of *market contestability* has indeed increased.

Let us go back to the example of Copenhagen-Berlin. When easyJet decided to start up a service between the two cities back in May, 2004, they did so with two daily roundtrips, one in the morning and one in the evening. However, the airline quickly decided to cut back and discontinue the morning roundtrip, just leaving a single, daily, late evening roundtrip service, which the airline still operates today. Now, what would have been observers' (including the author, by the way) comments, if this had been, say, three or four years ago? Well, probably something like "that is far too small a scale to attract any lucrative business traffic" or "for a weekend tourist either going to Berlin or Copenhagen, what good is a single daily flight arriving so late, that you would not be in the centre of the city until late in the evening?" -And they would have been absolutely right, because the entire aviation "philosophy" back then was based on staying with the same airline, or at least the same alliance, throughout your entire journey. Today, however, the situation on many routes – on both sides of the Atlantic – is very different.

In the beginning of 2005, SAS started offering one-way tickets on many of the airline's European routes under the *Snowflake* name²⁶. After a period of selling intra-European tickets on the exact same planes under two names, SAS and Snowflake, on two different web sites and with two different fare structures (return- and one-way based, respectively), the airline decided to introduce a one-way based fare structure on the SAS brand as well for all intra-European flights in September 2005. Advertising campaigns emphasized the new flexibility – now you could, for instance, travel outbound on a cheap, non-flexible ticket, and home on a more expensive, flexible ticket; no need to buy a flexible one for the whole trip. What the advertising campaigns, naturally, did not emphasize, was that the new one-way based fare structure also meant that you could fly outbound with SAS and homebound with a (one-way based) competitor! Of course this would be a weird thing to advertise directly, but no doubt that this is partly what made (and makes) SAS' new one-way fare structure attractive as well.

It appears that SAS is not the only one going in the one-way/fewer restrictions direction. Other traditional airlines have also, although not adopted the one-way model 100 %, relaxed their ticket restrictions significantly on many routes – partly in an attempt to adapt to the changing travel patterns, partly in an attempt to compete with the one-way based carriers. However, SAS' new concept with a 100 % one-way based fare structure on all intra-European routes is still quite a quantum leap from most other, traditional European carriers, and after a couple of months with the new concept none of the other European carriers have done the same – apart from those that already used 100 % one-way, most importantly Aer Lingus and SN Brussels Airlines.

On the other side of the Atlantic it is also observed how the simple, one-way based fare structures of the LCCs force many traditional carriers to relax their ticket restrictions on many routes. In table 1 14 selected traditional carriers and their

²⁶ *Snowflake* was SAS' one-way based LCC-child started in the spring of 2003, largely set up to compete on Mediterranean routes. However, like many other low-fare spin-offs by traditional carriers (for instance SAS' Star Alliance partner Air Canada's spin-off *Zip*), *Snowflake* proved not to be a success. After a little more than a year, the airline abandoned the *Snowflake* LCC-project; however, SAS continued to sell one-way tickets under the *Snowflake*-brand on many of the airline's regular European SAS-flights.

respective fare structures as of October, 2005, are listed. For American carriers it is with regards to domestic routes, for European carriers with regards to intra-European routes.

Table 1

USA	Fare Structure
American	One-way based on certain routes, particularly trans-con, otherwise return-based
Continental	One-way based on certain routes, but primarily Return-based
Delta	One-way based on certain routes, otherwise Return-based
Northwest	Return-based
United	One-way based on many routes, otherwise Return-based
US Airways	Return based 1)
EUROPE	Fare Structure
Aer Lingus	One-way based 2)
Air France	Return-based, however, restrictions on Scandinavian routes relaxed after SAS introduced one-way
Alitalia	Return-based, however, on Scandinavian routes one-way based after SAS introduced one-way. Also one-way based on some other routes
British Airways	Return-based, however, one-way introduced on Scandinavian routes after SAS introduced one-way
KLM	Return-based
Lufthansa	Return based
SAS	One-way-based 3)
SN Brussels	One-way based

1) After US Airways was bought by America West (as known the joint airline continues under the US Airways name) it is not known (at least not to the author) whether or not the airline will continue with America West's one-way based fare structure or US Airways' return based – or maybe a combination of the two

2) In the fight against low-cost giant and number one competitor Ryanair, Aer Lingus has decided to officially re-launch itself as an LCC – on ATW's LCC top-10, 2005, the airline is placed among Southwest, Ryanair, easyJet etc. (!). The airline is a modest number 9 on the list in terms of revenue and RPK (Source: ATW Magazine, July 2005)

3) On routes between Scandinavia and Germany one-way will be introduced on January 1st, 2006

Source: Airline websites, on-line travel sites, newspaper articles and www.takeoff.nu

From table 1 it is seen clearly how more and more traditional airlines have given up their strict ticket rules in favor of more relaxed fare structures, at least in certain markets. The general tendency seem to be that one-way based fare structures, or at least less restrictive return based fare structures, are used by traditional carriers on routes where competition from airlines using relaxed fare structures (predominantly one-way) is big – for instance on routes with significant competition from LCCs. On the other hand it seems that the return based fare structure persists when there is no significant competition from carriers using one-way based fare structures – those being either LCCs (for instance JetBlue in the U.S.) or traditional carriers (for instance SAS in Europe).

In relation to table 1 and the above mentioned, it should be noted that the term “one-way based fare structure” is somewhat ambiguous and subject to personal judgment. In the above mentioned, a one-way based fare structure is defined as a fare structure where a one-way ticket costs approximately half of an equivalent return ticket – i.e. if there is a small discount on the return ticket, say, 3-4 % on the price of the whole journey, this is still considered a one-way based fare structure. Put another way, it is only in cases where a one-way fare is significantly higher than half the equivalent return fare, or maybe even higher than the return fare, that the term “return based fare structure” is used.

There is also another issue in relation to the definition fare structure. Not going into details, some LCCs would probably argue that a one-way based fare structure only comes with the highest degree of simplicity – which is the case for most LCCs. At a given point in time, there is one price for a seat on one particular flight, and every ticket is sold with the same set of ticket rules²⁷. SAS’ new one-way fare structure is, on the other hand, albeit one-way based (of course) not simple, as you have different prices for exactly the same flights depending on where you choose to book – for instance the Danish web-site, the Swedish web-site etc.²⁸ On top of this, a 33 % child discount is available, and you can book non-flexible and fully-flexible one-way tickets in the new system, so you have different ticket rules associated with different prices – by the way, the latter also goes for American LCC legacy Southwest Airlines.

Summing up, *one-way* is a term subject to personal opinion, and some might argue that I have pushed the term just a bit too far in this paper. However, my focus is on the fare structure’s influence on the contestability of the air travel market, and in this sense “one-way is one-way”, regardless of the level of simplicity in the fare structure in other areas. The most important thing in relation to the focus of this paper is that the fare structure in itself does not significantly tie a customer to a particular airline beyond a single leg²⁹.

One-way and contestability – returning to Copenhagen-Berlin

Going back to Copenhagen-Berlin, SAS has now introduced a one-way based fare structure on the route. Danish Maersk Air, who not that long ago started up service between the two capitals with four, more or less, random-scheduled flights a week, also operates with a one-way based fare structure. The same thing is true for easyJet. SAS has 32 weekly roundtrips, Maersk Air 4 and easyJet 7. Altogether, you have three competitors on a route, none of which force their customers to stay with them both outbound and return through return-based fare structures.

Of course it is possible that there are business passengers who depend on flexible tickets and a flexible schedule, something that only SAS provides on Copenhagen-Berlin. However, since it is most often the case that walk-up fares offered by LCCs (in

²⁷ Not to be confused with ticket restrictions such as minimum stays etc.; these rules primarily deal with whether or not you can change your ticket (for a fee and possibly an upgrade charge) and how.

²⁸ I personally saved quite a bit on a trip from Copenhagen to Gothenburg “hopping” between the Danish and Swedish SAS-site to get the cheapest fare on each leg. In this case, the Copenhagen-Gothenburg leg was cheapest on the Swedish site, whereas the Gothenburg-Copenhagen leg was cheapest on the Danish site – I do not remember the exact price differences, but they were indeed worth the bother!

²⁹ In most cases, this would be equal to “beyond the outbound flight”.

this case, Maersk and easyJet) are lower than flexible fares offered by traditional carriers this does not have to be an obstacle to the market contestability.

It is the author's opinion, that the transition to one-way based fare structures indeed is one of the most important factors (if not the most important) in explaining that it is at all possible to have three different airlines offering Copenhagen-Berlin, *and* on top of this have a number of weekly flights for two of the airlines so low, that it is difficult for those two to keep the customers both outbound and return. But now you can, say, fly down to Berlin with SAS in the morning and back with easyJet in the evening – or fly back from an entirely different city for that matter – without being punished by a return-based fare structure³⁰.

With the transition to one-way based fare structures, the air travel market has obviously become more *contestable* on routes affected by this change. In theory, it now only takes a market expansion equivalent to one weekly roundtrip – or maybe around 120 persons in both directions – to economically justify putting a plane in service to fly this new roundtrip. Before, with the return based fare structures, it took maybe three *daily* departures to start up service, or an equivalent market expansion of 2.520 persons (3 x 7 x 120). It is obvious that the situation beforehand indeed lowered the flexibility in market supply, which is crucial to the level of market contestability.

A recent example is Danish LCC *Sterling Airlines'* announcement of possible plans to enter the market for domestic air service in Denmark, more specifically the route between Copenhagen and the 4th largest city, Aalborg, in the northern part of the country. The route is currently only operated by SAS; however, the airline is not alone since there is significant competition from rail and bus services. In a comment to the announcement by Sterling, SAS Denmark's VP, Jens Wittrup Willumsen, said that "*competition on the Danish domestic air travel market takes a dense traffic program, and I do not think that Sterling has enough aircraft to make this service work economically*"³¹.

However, in relation to this it is important to remember, that because SAS operates with a one-way based fare structure, and it is very unlikely that Sterling will operate with anything else, then – referring to the previous argument – it is not necessary for Sterling either to start up, say, five daily roundtrips, in order to attract business customers in particular; regardless of whether or not the airline has planes for it. Sterling can just – *plane by plane* – insert capacity until there it is no longer economically wise to do so, i.e. until the market is saturated with respect to Sterling's profits from the service. Whether the airline from a purely economic perspective then ends up with one or five daily roundtrips has – all other things equal – less relevance, since customers can, say, fly down to Copenhagen with SAS and back with Sterling, without being punished for doing so through return-based fare structures³².

³⁰ Rounding of the Copenhagen-Berlin story, Sterling (which bought Maersk Air recently) just announced that beginning from November the airline will cancel Maersk Air's four weekly random-scheduled flights to Berlin Tegel Airport, and replace them with two more "regular"-scheduled daily flights to Tempelhof Airport instead. In this way, the airline will be able to keep more passengers both outbound and return – actually contradicting the view just presented. However, it could be that the Airline simply sees a profit opportunity in the market which is only fully tapped when the capacity of two daily 737's is set in.

³¹ www.StandBy.dk, September 23rd, 2005

³² Again, of course things are not *this* simple – SAS' FFP, better flexibility with SAS, SAS' feeding in Copenhagen and Sterling's desire to be able to do the same (which would require more than, say, just a single daily roundtrip), advertising the new service is subject to

So, is it a better idea to have low-frequency services today than five years ago? Definitely, and the transition to one-way based fare structures is indeed a major cause for this. However, there are other elements in this as well – a contestable air travel market is not reached just by introducing one-way tickets. On top of this, it should be noted that the one-way based fare structure – as well as the classic LCC-model – has yet to reach the intercontinental markets³³. At the same time, other reasons for having high frequencies are also there – for instance, part of the reason U.S. low-cost heritage *Southwest Airlines* offers high frequencies is that this creates traffic enough for the airline to use its own ground handling. The airline emphasizes this because they would like that the customer meets the Southwest-culture and starts the Southwest-experience at check-in.

Contestable markets and the Internet

An element that like the one-way based fare structure seems to move the air travel market closer to contestable markets, is *distribution*. Here, the Internet has turned the distribution and marketing of air tickets upside down (Hvass, 2005a).

One of the problems in the American airline industry back in the 80s and well into the 90s was, as previously mentioned, that the huge airlines owned the distribution channels³⁴ and on top of this were able to manipulate with the travel agencies through TACOs – and back then travel agencies sold almost every seat on a plane. New entrants in the airline market would have to fight their way through the GDS-systems and in particular the travel agencies – they were fighting against their competitors on one side (GDS-systems) and their sales staff on the other (TACOs). As if all this was not enough, new entrants also faced a larger burden when it came to marketing of a new service, a burden that is now significantly reduced with the Internet.

With the Internet, GDS-systems have lost their monopoly on distribution, and the travel agencies have lost their more-or-less-monopoly on the actual sale of air tickets – what it all boils down to, is that the customer has gained a lot of power at the expense of GDS-systems and travel agencies. It has created significant savings for airlines and customers; no more GDS-fees and commissions to be paid. The customer can by-pass both the travel agency and the GDS, which has removed an enormous barrier of entry for new carriers³⁵, and forced GDS-systems as well as travel agencies to find new ways of making money. The GDS-systems have indeed lost a lot of their power, which gives airlines better bargaining positions and therefore lower GDS-fees; recently seen when SAS renegotiated with the GDS-systems and succeeded in achieving huge cost savings.

economies of scale suggesting higher frequencies etc. However, it could indeed prove to be a good economic decision just to offer one or two daily roundtrips; Sterling's decision on the number of roundtrips would basically depend on how the capacity increase in the market would lower the overall price level, and not on how many of its passengers it could keep both outbound and return – easyJet has proven that this can be done economically on Copenhagen-Berlin.

³³ Interestingly, CEO of SAS, Jørgen Lindegaard, said that if Sterling started transatlantic services with a one-way based fare structure, it would indeed be a possibility that SAS would do the same on its transatlantic services in response (www.takeoff.nu, September 21st, 2005). However, with Delta and Continental both starting up transatlantic services to Copenhagen next summer, the chance of this happening has dropped significantly.

³⁴ The problem with GDS-bias has not existed in several years; however, the problem with TACOs became more severe especially throughout the 90s, particularly in the U.S.

³⁵ Or already existing airlines wanting to start new services outside “home”, i.e. outside their own GDS and TACO-network.

Today it is more or less outlawed for an LCC to talk about anything else than direct sales to the end customers in order to keep costs down, even though there are indications that this development could turn around, and some LCCs – among those Swedish *FlyMe* – are starting to see the benefits of GDS-distribution and sales through travel agencies, especially in relation to corporate customers³⁶.

Where it used to be the GDS-systems that were the only to have the strength of being able to show an endless number of flights and fares, now you can find travel sites on the web which collect information on flight times, prices etc. directly from the airlines' own web sites and then compares it on your screen. Sophisticated software that compares everything on the same screen – GDS-airlines, LCCs, published fares, web fares, negotiated fares etc. – is being used by an increasing number of travel agencies.

If you searched on the web for an air ticket Copenhagen-London just two or three years ago, you would only be offered airlines that distributed via GDS, and you would always be flying out and back on the same airline. If you look today instead, you can be offered to fly, say, British Airways out and easyJet back – completely unimaginable just a few years ago. This is in great part due to the Internet and the far more open³⁷ distribution structure witnessed today, but of course it should also be seen in relation to the transition to one-way based fare structures. Summing up, the Internet has indeed played a huge part in increasing the level of market contestability in the air.

Commoditization and contestable markets

To which degree there has been a tendency towards commoditization in the airline industry is being discussed (Hvass, 2005b), however, in recent years it seems to have been the case that the price parameter has become of increasing importance to the customer when he or she is choosing an airline. Back in the days of regulation this was often not an option at all, which was why the airlines had to compete on service, food and drinks, legroom, stewardesses etc.

After the U.S. deregulation in 1978 the airline industry experienced a general decline in the level of service, comfort etc., in the air as well as on the ground (Dempsey & Goetz, 1994). Of course this can be interpreted indifferent ways; however, an obvious interpretation is that customers apparently did not love the free champagne and generous legroom as much as they loved saving the money this cost. Put another way, people turned out to be more and more willing to sit a bit closer together for a couple of hours if it could save them some money.

Maybe it is somewhat the same thing we have seen in Europe in recent years – the LCCs enormous growth, less legroom and no frills offered by many traditional carriers etc. Indications are that people no longer seem to have the sort of romantic perception of flying, when they actually have an option to save the money this “romantic” flying costs – during regulation, this was not an option.

Commoditization means, that – in this case the air ticket – becomes a standard commodity like oil or corn, where the price is the only parameter that matters to the

³⁶ This was more or less the conclusion at a Take-Off magazine conference on GDS-systems in May, 2005 in Copenhagen, where all the big four GDSs – Cendant (Galileo), Sabre, Worldspan and Amadeus – were represented.

³⁷ But not necessarily more simple and transparent – all other things equal, it used to be that there was one place to look for flights and fares – the GDS-systems. Many travel agencies today complain about the complex task it now can be to find the cheapest ticket for a client – this is of course why all the new software has shown up.

customer. Of course the airline industry is far from here, and maybe especially in Europe, where you still find a lot of people who prefer to fly with an airline where for instance the staff speaks your native language. This being said, indications are that the airline industry, relatively speaking, has become more commoditized in recent years. What this means is that airlines will have more and more difficulties trying to make the market less transparent – i.e. less contestable – through having different service concepts etc.; apparently, customers tend to look more and more at just the price.

The above is especially true for shorter hauls, say, within most parts of Europe or non-trans-con flights in the U.S., but for longer flights things currently seem to be going in the opposite direction – airlines in these markets continuously try to beat each other on entertainment systems, lie-flat beds, Internet access, airport lounges etc.; especially in relation to the business clientele.

It is difficult to pin point why there has been this commoditization in the shorter-haul markets in recent years, but no doubt that people have chosen to exchange some in-flight comfort and service for savings on the fare, and this is a major reason. In addition to this, the Internet could also have had an effect on commoditization – here, it is most often the case that only prices are compared, not legroom, in-flight service etc. And if price is the only parameter showed this is the most obvious sign of commoditization. If you, instead of booking on the web call a travel agency, you are often also informed about service on board, a nice transfer hub etc., which helps to lessen the effect of commoditization.

Commoditization within an industry is also witnessed when the players in the market start to outsource activities, because this outsourcing brings with it standardization and homogeneity, which, other things equal, means that other parameters than price become of less importance to the customer. Several factors are important in relation to this, however, it is obvious that if more and more activities are outsourced, then this in turn means that an increasing part of the company culture – both inside the firm and as perceived by customers – is lost, and company culture might exactly be what can differentiate a product and lessen the effect of commoditization. Examples are numerous, but a couple of good ones were described in a contribution to Take-Off Magazine:

*... "there no longer exists (in the hotel- and airline industry, ed.) a big difference between checking in on hotel A or B, both with box mattress, linen from Jysk (Danish linen giant, ed.) and morning buffet from Arla and Tulip (Danish/Swedish dairy giant and a big Danish food manufacturer, respectively, ed.). Or what about a flight with SAS onboard a Lufthansa 737 leased in from SN Brussels Airlines?"...*³⁸

The above comment illustrates very well how the outsourcing means more homogeneity in business models and thereby more and stronger price competition – in short: Commoditization. Within aviation, outsourcing has become highly significant in recent years, particularly in Europe³⁹ - just look at how an entire flight journey can be

³⁸ Comment by Jan Kjær Nielsen, Take-Off Vo. 10, November, 2004. By the way, in this issue there are many interesting comments on the commoditization issue.

³⁹ In the U.S. extensive outsourcing has existed for many years.

completely outsourced: Ticket sales, marketing, ground-handling, planes, pilots, cabin crew etc.⁴⁰

To take an example, look at SAS' recently introduced flights from Copenhagen to Luxembourg: Ground-handling is outsourced at both endpoints of the route⁴¹, CRJ-200s are leased in from Danish regional carrier *Cimber Air* and are operated with a small SAS-logo on the tail, and the cabin crew as well as the first officer is from *Cimber Air*. The closest thing a customer gets to an experience of a – possibly – differentiated SAS culture is the captain, who the customer is most likely never to meet.

In the U.S., as noted, the outsourcing is much more significant, with *Skywest* being a good example. The airline, which with a fleet of around 400 (smaller) aircraft, even for the U.S. is not of an irrelevant size, is relatively unknown, because it exclusively flies on behalf of other airlines, for instance Delta and United. When these airlines choose to outsource routes to Skywest, it is because Skywest can operate the shorter and thinner routes cheaper than they would otherwise be able to themselves, because Skywest has a fleet of smaller aircraft as well as a cheaper staff⁴².

As known, outsourcing is not limited to aviation; it happens across industries in relation to a general change of role for businesses: They are moving away from a focus on *internal efficiency improvement* to a focus on *external organizational improvement*. Do whatever you are the best at, and if you are not *the* best, then buy from the one who is. This is the main reason why purchasing has been making up an increasing part of firm's costs in recent years. Going back to Copenhagen-Luxembourg, the list of costs previously composed salaries, depreciations, landing fees, ATC-fees etc. as well as fuel, food etc.⁴³ Now, you only have two bills for ground service and a single bill for leasing plane and crew for three hours. And the situation today is that from a cost perspective *Cimber Air* is better at flying Copenhagen-Luxembourg than SAS is. SAS' role in relation to this is then "just" to organize the contact between ground-handling companies; plane operators etc., in order to provide the customer with a product *put together* by SAS but in the individual steps *carried out* by others.

The above also obviously plays a major role in the commoditization of the airline industry. If one wants this development to turn around an obvious remedy could simply be to perform more functions in-house. However, this often proves to be costly – remember, this is why the functions were outsourced in the first place. What it comes

⁴⁰ Functions such as maintenance are also often outsourced, but contrary to the other elements this is not a function, that the customer gets in direct contact with, and therefore this is of much less relevance in relation to the customers (possible) perception of a differentiated product.

⁴¹ In Copenhagen it is outsourced to SAS Ground Services, a division in the SAS Group; however, it is nonetheless outsourced.

⁴² Of course one could ask the question: Why do, say, United, not just acquire some smaller aircraft more suitable for these particular routes and operate them on their own? This is related to labour costs. If United owns suitable planes it is very difficult to outsource the staff functions to cheaper suppliers without starting conflicts with the unions. However, if United does not own suitable planes, it is easier to make the unions swallow the bitter pill of the airline having to outsource some routes – and some jobs – to airlines that do have the right aircraft. With the same reasoning, it probably would not be entirely wrong to say that it is "lucky" for SAS that the airline does not own suitable aircraft for a route like Copenhagen-Luxembourg, because if the airline did, it would probably not have been possible to outsource the route to *Cimber Air* and make use of this airlines' lower labour costs because of union opposition.

⁴³ Just to let the reader know, SAS did not previously fly Copenhagen-Luxembourg.

down to is that there is a trade-off between the generally⁴⁴ higher costs associated with performing the none-key business area functions in-house on one hand, and a possibility of charging higher prices when doing this on the other because many people might be willing to pay extra for a differentiated experience caused by the in-sourcing. It is probably with a trade-off like this in mind successful Southwest Airlines, as previously mentioned, uses in-house ground-handling.

Commoditization must also be seen in relation to one-way based fare structures, because the level of market contestability is not increased with one-way based fare structures if company culture etc. ties customers to a particular airline both outbound and return anyway. So, commoditization and one-way based fare structures are complimentary.

Summing up, the increasing commoditization means that it has become easier⁴⁵ for a new airline to enter a route, because other parameters than price – for instance leg room, service, brand etc. – have become less relevant in choosing an airline. This has, together with the changed distribution structure through the Internet as well as the transition to one-way based fare structures, also contributed in making the air travel market more contestable – or at least it has created better possibilities of a contestable market in the air.

Remaining barriers to contestable markets in the air

With the transition to one-way based fare structures in an increasing number of markets, the more open distribution structures and an increasing degree of commoditization, the air travel markets in North America and Europe seem to have moved closer to *contestable markets* – however, barriers limiting the degree of contestability in the market still exist. The following gives a sum-up of some of the most important ones.

With regards to ***advertising and marketing*** the Internet has, as noticed, made it a lot easier to start up a new air service. This being said, it still takes quite a bit of effort, time and money to start up a new service, especially if an airline wants to have a lot of direct sales on the airlines' web page, which there indeed is a tendency towards today – among traditional carriers as well as LCCs. So, in relation to this economies of scale still exist, and these can limit the degree of market contestability. For instance, a single daily roundtrip on a particular route will of course be more expensive to advertise per seat than if the airline offered five daily roundtrips.

Frequent Flyer Programs (FFPs) are still doing a good job tying customers to particular airlines or particular alliances, which limits the degree of market contestability. However, the heydays of the FFPs might be lacking towards the end –

⁴⁴ One of the theories supporting this proposition states that if you outsource a function it is easier to play out possible suppliers against each other, and in this way you keep the salary-level down and/or keep the efficiency high. In addition to this, economies of scale are of course often present in relation to outsourcing.

⁴⁵ Easier in the sense that it has become more simple, because an airline entering a new route only has to show customers one parameter – the price. It might *not* be easier today if you are an airline looking to differentiate yourself by for instance offering frills, because this is often ignored by travel sites on the Internet. For instance, the “old” Maersk Air was – all other things equal – not as favourably quoted on travel sites as many of the airlines' competitors, because the travel sites hardly ever mentioned that you were offered complimentary coffee and tea, newspapers, possibly more leg room etc., something that might save you money onboard as well as give you a better travel experience – most travel sites only compared prices.

many corporations have started to keep employees' frequent flyer points⁴⁶, and people generally tend to fly more and more often. Both things mean that – from the customers' point of view – economies of scale start to show up in relation to FFPs. When a private person or in particular a corporation flies a lot, frequent flyer points are earned and redeemed within a short period of time – and other things being equal this means that your bias towards a particular airline or alliance is reduced.

The usual strength of the FFPs lied in the fact that customers booked a particular airline or alliance “just once more”, because then they had enough points for a free trip. However, when private persons or corporations travel a lot *combined*, with different airlines and different alliances, then you will tend just to choose the cheapest option each and every time. Put another way, if a private person or a corporation has five different FFP accounts which are all steadily accumulating points, then you will just choose the cheapest carrier each time you want to fly – in due time, the free trips with the different airlines will come anyway. The introduction of points for credit card purchases, car rental, hotel stays etc. is probably just lessening the tying-effect of FFPs even more if all FFPs offer this.

Despite the above, FFPs are still being used by most airlines, although this is not the case for most European LCCs. One of the reasons is that FFPs are notoriously associated with traditional carriers, and on top of this they are generally not perceived to be compatible with low fares⁴⁷. In stark contrast to this, looking on the other side of the Atlantic, even the father of low-fare flying, Southwest Airlines, operates with a – by the way, very popular – FFP, *Rapid Rewards*. So, there does not seem to be a universal view on the costs and benefits of FFPs. So far, FFPs in general do seem like they are here to stay though, and despite the fact that they have lost a lot of their tying-power in recent years, they still make up a barrier limiting market contestability.

Despite the previously described tendency towards commoditization in the air travel market, *cultural barriers* still seem to persist in many markets, particularly in Europe. These indeed limit the degree of market contestability as well. Other things being equal, it is still a lot harder for SAS to start a domestic service in Portugal than it is for TAP – also if you do not take hubs etc. into account. When Irish Aer Lingus tried to start up a hub in Manchester back in the late 90s, this did not turn out to be a success; apparently in great part due to cultural differences (Hvass, 2005a). Differences between different countries and regions do not necessarily only have to do with the customer-side of the equation, it can also be in relation to working culture, legal environment etc. which can make it a lot more difficult both operationally and administrative to operate air services in, for instance, another country – and this is probably already hard enough on the customer, or revenue, side because of cultural differences.

This being said, LCCs such as easyJet and Ryanair are more neutral in relation to nationality, which is probably why these airlines have had an easier task trying to expand beyond their home markets in the U.K. and Ireland. Despite the national touch of the name, German *Air Berlin* has, too, for many years had success with domestic air

⁴⁶ Among an increasing number of other both private and public enterprises, Swedish furniture giant IKEA as well as the Danish State (which directly or indirectly employs around half the working population in Denmark) do not allow that employees' points are used for anything else than work-related travel. In the case of IKEA, they have forced airlines to allow them to pool employees' points, which lessens the tying-effect of FFPs even more.

⁴⁷ Not really because of the free trips themselves, more because of the costs of administering an FFP.

services in Spain, and in the summer of 2005 the airline started to give Austrian Airlines some serious competition out of Vienna. So, it seems like it can be done, however, significant cultural barriers will probably still prevail in Europe for many years to come.

Problems with acquiring *slots and gates* still exist today, and they too limit the level of market contestability in the air. However, sometimes the problem does seem to be a bit exaggerated; if an airline is just modestly flexible it should not be a problem to get into most large-city airports in the U.S. and in Europe. Despite this, slots are still in short supply in a number of key airports, especially at certain times of the day, and gates are also limited in many places – in the U.S. this is particularly true for airports in the East and Upper-Mid-West, for instance, JFK and Chicago O'Hare, and in Europe it goes for several London airports as well as airports like Paris CDG and Frankfurt.

LCCs often solve these problems by operating from secondary airports, and the significance of these has increased dramatically throughout many regions in both the U.S. and Europe in recent years. This could prove to increase the level of market contestability. At the same time, people seem willing to drive a long way if that is what it takes to get a cheap airfare, especially in the U.S.

Authorities in both the U.S. and Europe try to combat the slot problems by awarding new or available slots to newcomers, or in more rare cases redistribute slots. This is how Maersk Air managed to squeeze in at Frankfurt and how easyJet managed to get in at Paris CDG and Gatwick. These initiatives by the authorities do apparently increase the level of market contestability, however, this also requires flexibility – and it is obvious that the flexibility is limited when an airline has to start negotiations with the authorities every time it wants to start up a service to a slot-constrained airport.

Altogether, capacity problems at airports still make up a barrier to contestable markets in the air. However, since many long-term gate-leases in the U.S. expire in these years, it is not unlikely that gate capacity barriers could be reduced.

Hub-and-spoking, which was adopted by the big American carriers in the 1980s, and which has existed for even longer in Europe because of the many different flag carriers, is apparently not as popular today as it used to be. Reasons are many, and I will not go into detail, but the lack of slots at many key airports, an increasing demand for nonstop services, and the introduction of small aircraft like the A319 capable of flying relatively long hauls, which has reduced the need for consolidating onto big aircraft, all contributes to the reduction of emphasis on hub-and-spoking.

As an example, SAS has significantly downscaled its hub-and-spoking operations in Copenhagen in recent years, allowing for more nonstop flights from Stockholm and Oslo – and more is on the way, according to CEO Jørgen Lindegaard⁴⁸. SAS being the number one operator by far at Copenhagen Airport, this has reduced transfer traffic at CPH from around 1/2 to 1/3 of the passengers in a few years. Total traffic has gone up, which means that the loss of transfer traffic has been more than offset by an increase in CPH-originating or terminating traffic – that is, mostly, nonstop traffic⁴⁹.

This being said, the hub-and-spoke model is indeed still being used by many airlines. This does give hub airlines economies of scale, which can limit the degree of market contestability at the relevant hubs. Contrary to the general belief, the model is not limited to traditional carriers; to a certain extent LCCs like Ryanair and easyJet also make use of it in practice, even though they do not on-line and do not give discounts on

⁴⁸ www.atwonline.com, September 12th, 2005

⁴⁹ Source: Among others, www.cph.dk

through-tickets. On the other hand, American LCC Southwest Airlines both on-lines and offers through-ticket discounts⁵⁰.

Carriers with large hub-traffic will experience economies of scale through the adding of transfer traffic to the point-to-point traffic, which, other things being equal, gives higher load-factors and/or possibilities of using larger aircraft with lower costs per seat⁵¹. The effect can be that a newcomer only going for the point-to-point traffic will have difficulties competing with the incumbent's costs. However, if a large hub-airline like, say, Ryanair at London Stansted, does not on-line and does not offer through discounts, these advantages are theoretically gone, because the airline then cannot keep its customers after the hub-stopover via discounts on through tickets.

If the future brings with it more airlines dropping the through-ticket discount, this will obviously increase the level of market contestability in relation to hubs – however, since there are sound economic arguments for keeping the through discount, it can indeed be doubtful whether this will happen. It is also seen how LCCs like Southwest in the U.S. and Sterling in Scandinavia both are offering through-ticket discounts, which other things being equal do tie customers to a particular airline after the hub-stopover. In SAS' new one-way based fare structure, through-ticket discounts are also offered, and this obviously helps to tie customers to SAS after a stopover in, say, Copenhagen. So, it is not necessarily the hub structure in itself which limits the level of market contestability at a hub; the through-ticket discount is probably more significant in making a customer stick to a particular airline after a hub, and thereby this is probably what really decreases the degree of market contestability here.

Unfair or illegal competition practices have been seen numerous times in the airline industry, and even though legislation has turned tougher in recent years in the U.S. as well as in Europe, suspicious competition practices in the airline industry remain. History has indeed shown how these practices can decrease the level of market contestability in the air.

In the deregulated U.S. airline industry in the 1980s, incumbent carriers used all the tricks in the book to combat the new competition – GDS-manipulation, predatory pricing, monopolization of airport facilities etc. The U.S. authorities let the airline industry mind its own business throughout the 80s, and hardly ever interfered, not even in the most obvious cases of price dumping, cartels, trust-building etc. (for instance, Dempsey & Goetz, 1994). It was not until the early 1990s and the Clinton-administration, that this Laissez-Faire policy terminated. Among other things, authorities now started to pay more attention to the problems of slot shortage as well as the problems of illegal price dumping, which was a popular practice among the big incumbent airlines; in particular, American Airlines was accused of price dumping on numerous occasions.

Learning from the U.S. experience, European authorities deregulated the airline industry more modestly, which means that some regulation still exists in order to fight competition practices that are harmful to competition in the long run. A recent example

⁵⁰ A through ticket discount means, that the price of a ticket from A to C via B is smaller than the price of a ticket from A to B *plus* a ticket from B to C. The price reduction reflects a lower willingness to pay when going through a hub, especially if non-stop services are available. It is not uncommon that the A-to-C-price is lower than, say, the A-to-B-price.

⁵¹ Bear in mind, though, that transfer traffic is not necessarily "free" either, since this requires coordination of flights which often means that aircraft have to wait for each other on the ground loosing valuable time in the air.

was seen in the spring of 2005, when EU ordered that Austrian Airlines removed one of the airlines' daily roundtrips from Vienna to Copenhagen in order to make way for Maersk Air, who wanted to enter this market – this was done entirely for the sake of competition, there was (and is) no lack of slots in either Copenhagen or Vienna⁵².

Nonetheless, problems with unfair competition practices, predatory pricing in particular⁵³, still persist. But while it is more hands-on to legislate against GDS-manipulation, monopolization, mergers, code-shares etc. it is an entirely different case with price dumping. Illegal price dumping – selling at a price below cost with the purpose of driving out competitors – is extremely difficult to define in aviation. It is very difficult to decide when a certain price is "below cost", because the marginal cost of a sold seat on a plane already scheduled is so small, that for all practical purposes it would never go below the sales price. In addition to this, it is also difficult to define when a reaction from an incumbent is illegal and when it is just a natural reaction to a newcomer entering the market. For instance, if Sterling starts up a service between Copenhagen and Oslo with return tickets starting at DKK 998, roughly 135 Euros (as they did a long time ago), is it then price dumping if a high-cost SAS starts doing the same? Or is it just a natural reaction to the new competition? Because in the short run, no doubt the marginal cost of filling up a seat to Oslo is below DKK 998.

Predatory pricing or *predatory behavior* practices used by incumbent carriers no doubt knocked out many, especially new, airlines in the U.S. in the 1980s, and it probably scared away even more from ever daring to start up. Throughout the 1990s there were still many cases where new start-ups complained about incumbent carriers' reducing of their prices to levels clearly not compatible with their cost levels – in the U.S. as well as in Europe. As an example, in 2004 SAS' low-fare child Snowflake was accused of severe price dumping on routes between Scandinavia and the Mediterranean, allegedly to put pressure on Maersk Air and Sterling⁵⁴.

Summing up, problems with unfair competition practices and especially predatory pricing have not gone away, despite that legislation is making an effort, and this obviously lowers the contestability of the air travel market. It is difficult for a low-fare newcomer to keep the low prices to himself, and it is extremely difficult to judge whether or not a reaction from an incumbent is predatory. However, studies in the U.S. indicate that incumbent carriers avoid predatory pricing if the new competitor is strong and has a lot of capital ready in case of a possible price war. So, apparently incumbent carriers do not dump their prices if it is Southwest Airlines or another big airline that has entered the incumbent's market, because they know that if they do, it will be a never-ending price war (Goetz, 2002). If more capital strong LCCs arise in the U.S. and Europe, and these have a high degree of mobility in the sense that they are able to enter

⁵² It goes with the story, that it was SAS and Austrian Airlines who, through an agreement on co-operation allowed by the EU, in turn agreed to make way if a competitor wanted to enter the market – again, not because of lack of slots but purely for the sake of being able to give SAS and Austrian, both Star Alliance members, some competition on the route.

⁵³ Or, more generally, predatory behaviour – a predatory act could, for instance, also be for an incumbent to double up frequent flyer points on the relevant route, increase TACOs etc. For these tactics, see Goetz, 2002.

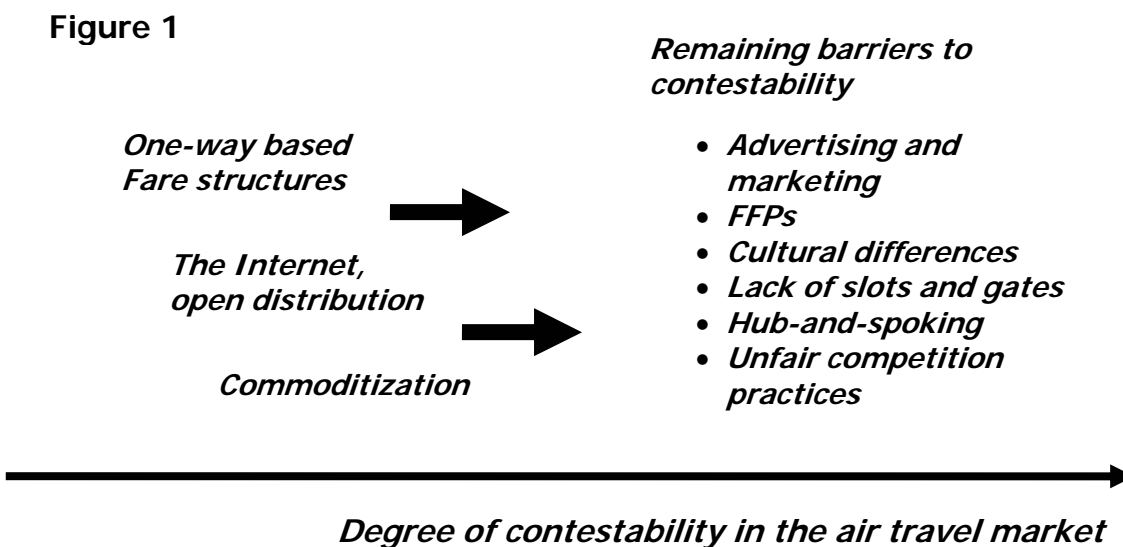
⁵⁴ Whether or not it was entirely caused by SAS and Snowflake is up for the reader to judge, but Danish KroneFly and its Icelandair-operated 757-weekend-flights from Copenhagen and Billund to Malaga and Nice did give up that summer because of the intense price competition.

markets in different regions and countries, this would indeed raise the level of market contestability⁵⁵. easyJet and Ryanair are already very good examples of this.

Contestable markets in the air? Sum-up and conclusion

The airline industry is theoretically one of the best suited areas in the world when it comes to creating a perfectly *contestable market* – the unique feature that the most important assets of the industry can be moved around at 800 km/hr makes for extremely good theoretical possibilities of a contestable market. The airline industry in its “purest” form – airplanes and flying – is placed in the very top when it comes to mobility of the product. In the book *Corporate Finance*⁵⁶ Brealey et al (2005) groups aircraft with high-mobility assets like gold, oil and financial securities, again emphasizing the huge possibilities of extremely intense competition in the airline industry, since the other industries are notoriously known for being subject to more or less perfect competition.

However, as I have tried to describe in this paper, the airline industry consists of a range of other – literally – down-to-earth things than moving planes around, and these have off-set the otherwise ideal circumstances for a contestable market. Saying this, there are indications that some of these barriers limiting the market contestability have gone considerably smaller – but there is also a number of barriers still there. In this paper I have tried to highlight some important elements in relation to this. The following figure 1 sums up these.



The transition to one-way based fare structures, the booming use of the Internet and the increasing commoditization are three important elements on the way towards a contestable market in the air – and these three elements have already done a lot. For instance, just a few years ago it was a generally accepted fact that a route almost never could support more than two carriers – every airline had to have a mass big enough to operate with a return-based fare structure, keep loyal distribution and sales channels through TACOs and traditional marketing etc. But today, one-way based fare structures,

⁵⁵ Such carriers could bear resemblance to the hit-n-run-carriers previously talked about.

⁵⁶ Brealey, Myers & Allen: *Corporate Finance*, 8th ed., 2005, McGraw-Hill, p. 292. Notice the huge difference between talking about aircraft and airlines in relation to this.

the Internet and the increasing commoditization in many markets have made it a whole lot easier for a new entrant to enter a market and tap it for profits. For instance, airlines wishing to enter a particular route do no longer have to wait for the market to grow big enough to justify a return-based fare structure or expensive lobbying campaigns targeted at travel agencies.

The lower barriers of entry have no doubt made the competition in the air tougher, but elements limiting competition and contestability still persist, for instance slot shortages and unfair competition practices. Time will tell whether or not and to which degree these barriers will continue to exist, and whether new barriers might start to show. But at the beginning of the 21st century, the *theory of contestable markets* indeed seems to have experienced quite a break-through.

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