



Impact of Airline Consolidation on Consumer Choice

The role of indirect distribution channels
in ensuring price transparency and
promoting competition

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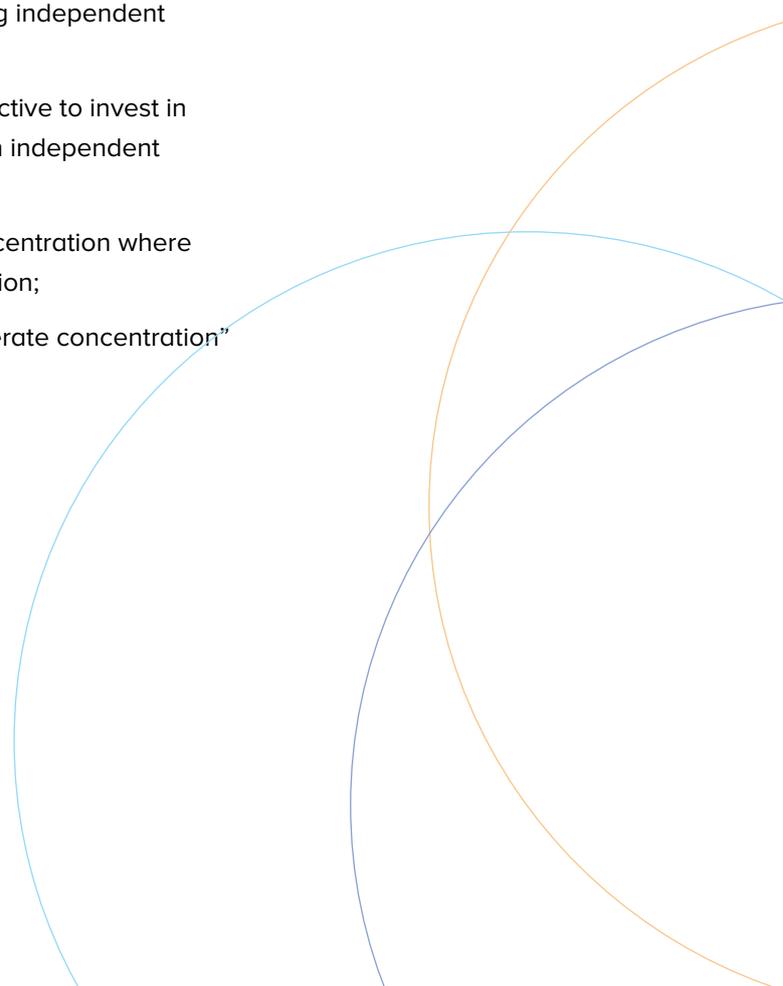


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1 — Executive Summary

1. Historically, the economics literature and competition authorities found that consumers would benefit from liberalization and deregulation of airline markets despite airline consolidation in the form of code-sharing, joint venture and mergers.
 - Most economic studies prior to 2007 concluded that consumers had benefited from liberalization and deregulation of airline markets.
 - Those studies found that benefits accrue when code-sharing and mergers facilitate the end-to-end extension of airline networks.
 - However, studies post 2007 show that some mergers and code share agreements (particularly those involving coordination of capacity and price and/or joint venture features, jointly referred to hereafter as “JV partnerships”) inhibit competition on both nonstop routes (where the parties previously competed) and sometimes in connecting markets.

 2. Consumers in Europe should be particularly concerned as evidence from the (more consolidated) U.S. market suggests that further consolidation in Europe may be costly.
 - Earlier literature indicated the importance of preserving independent competitors;
 - New literature shows that airlines find it more cost effective to invest in deterring the new entrants that are needed to maintain independent competition as other carriers consolidate;
 - Key markets in Europe are now reaching levels of concentration where competition may be at risk if there is further consolidation;
 - The intra-European market now shows levels of “moderate concentration” while the Transatlantic is near “concentrated” levels.
- 

3. Consolidation, particularly in the form of mergers of rivals and JV partnerships*, gives rise to at least five key consumer concerns. Merged carriers and JV partnerships:

- have incentives to **foreclose markets** to independent carriers by refusing to interline with them;
- may be able to raise fares in both non-stop overlap markets (an area of traditional concern) and in connecting markets due to the ability to coordinate more closely;
- allow carriers to **keep cost savings** from ‘density economies’ rather than pass them on to consumers;
- make it easier for carriers to **increase or preserve margins** – at the expense of consumers – by exercising capacity ‘discipline’;
- **reduce comparison shopping capability** – as carriers can coordinate their policies toward independent distributors by withholding ‘ancillary services’ information needed to facilitate comparison shopping.

4. Airlines have argued that consolidation is the only way to achieve certain benefits which they suggest exceed the costs of lost competition. But the European Commission has stated that in these cases, consumers must receive a “fair share” of the benefits.

- In certain circumstances, the airlines argued that the only way to achieve improved consumer benefits such as seamless service, fare combinability, integrated frequent flyer plans and some customised offers, was via consolidation;
- In essence, the airlines have argued the ‘offsetting’ benefits were greater than the costs;
- However, the Commission has made clear that beyond showing that benefits exceed costs, consolidating companies must also show that there is no less onerous way to achieve the same benefits and, consumers must gain a fair share of the benefits; in the past, competition authorities have designed remedies to offset competitive harm caused by some transactions but these remedies have not always been effective in helping consumers gain their fair share of benefits.

* Author’s note: In the U.S., there exists a formal, well-defined process at the U.S. Department of Transportation for airlines to seek a grant of immunity from U.S. antitrust laws for their joint venture. This grant of antitrust immunity is commonly called “ATI” for short. The joint venture agreements for which airlines seek ATI from the US DOT typically include the joint setting of prices, schedules and capacity allowing the partners to coordinate as if they were one airline in defined markets. In the EU, by contrast, there is no similar procedure for seeking immunity from EU competition law. Instead, in the EU the airlines will initially perform a self-assessment of their joint venture for compliance with competition law and then, when the cooperation is extensive, will frequently contact DG-COMP to brief that body before proceeding with implementation since DG-COMP might otherwise challenge the joint venture. DG-COMP may seek changes to the joint venture agreement as a condition for not opposing its implementation. Because all major airline joint ventures between Europe and the U.S. have received ATI from the U.S. DOT, the economic literature often discusses these transatlantic alliances under the concept or label of “ATI.”

5. Regardless of the state of the industry but particularly now that the airlines have consolidated, the most effective way of ensuring consumers have a fair chance of finding the best air travel option available is through neutral comparison shopping which depends on independent distribution.

- Comparison-shopping allows like for like airline offerings to be compared, giving consumers the opportunity to choose the most appropriate product for their need;
- Comparison-shopping depends on the quality of the information available; when information is incomplete, the search costs for consumers rise, resulting in consumers not benefiting from the potentially better options derived from shopping around;
- Comparison shopping is most effective when it includes fuller content
 - all or most of the offers available from each carrier – including fares, itineraries and ancillary services;
- Consumers also need independent distribution to find lower cost alternatives, including LCC's and new entrants, and to make tradeoffs between service (e.g. non-stop vs. one-stop) and prices;
- Consumers need to be able to find out about new 'service improvements' and the most effective way to do this is by comparing competing offers side by side;
- Consumers can find this kind of information via on-line travel agencies (OTA's), metasearch sites (that access multiple sources of ticket information), bricks and mortar agents and travel management companies;
- Fundamental to the value of these independent distribution channels is preserving access to travel content, including fares, itineraries and ancillary services.



6. Carriers are employing commercial practices to shift consumers to their own website where they avoid head to head competition and comparison-shopping.

- Airlines are focusing resources on promoting Supplier.com (the carrier's own site) where airlines can avoid 'head to head' competition, and develop strategies to upsell services to consumers;
- This strategy of 'shifting consumer eyeballs' to Supplier.coms has accelerated as consolidation has increased the size of the airlines, and the ability to coordinate product between alliance partners;
- In effect consolidation has made it easier to coordinate (among fewer independent competitors) new industry distribution standards and direct connections to agents. Independent comparison-shopping channels risk being dis-intermediated

7. Airlines are hindering effective comparison shopping by denying the independent channel access to content.

- In a further push to promote their Supplier.com channel, airlines have begun to limit the ability of on-line travel agencies to provide flight information to metasearch sites;
- Metasearch sites depend on OTA's, travel service providers and GDS for their information. These relationships can be 'fragile'. For example, many of Kayak's (a metasearch site) content contracts can be terminated on 30 days' notice;
- Airlines are also limiting information made available to GDS's who combine the information used by travel agencies and travel management companies;
- They have also begun imposing a fee on travel agent tickets, which may reduce the long term health of independent distribution outlets.

8. Detrimental carrier practices are being further reinforced by Google - through Google Flights - who degrade 'general search' by inserting flights linked exclusively to Google partners.

- Independent research concludes that consumers are harmed in this process.

9. Preserving comparison-shopping is particularly important now that the airline industry has consolidated through mergers and JV partnerships.

- While some consumers may benefit from custom offers made by the carriers, consumers cannot make informed choices without information on all alternatives available made possible by comparison shopping.

10. Deemphasizing comparison shopping will harm new entrants and hence consumer choice.

- Major low cost carriers (LCCs) such as easyJet and Ryanair, are increasing their distribution through GDSs as a means to become more competitive with full service carriers at major airports.
- To penetrate the markets for major city-pairs where full service carriers (FSCs) are dominant, LCCs need the option of neutral comparison shopping - provided by robust independent distribution channels - to gain access to high-value business travelers.

11. The Commission is the ultimate protector of competition and consumer interests.

- The Commission has a mandate to evaluate consolidations from the standpoint of whether they adversely affect consumers;
- The Commission is chiefly concerned with reductions in the number of independent competitors in city-pair markets and with whether competitors can enter or expand if fares rise due to consolidation;
- Efficiency gains and demand side impacts (e.g. fare combinability) made possible by combinations are counted as benefits only when they are likely to be realized by consumers.



2 — Recommendations

DG-COMP

should now consider a retrospective review of the consequences for consumers, both leisure and business travelers, of airline mergers and any extensive cooperation, including JV partnerships

DG-COMP should:

- consider the adverse effects of current and further potential consolidation on both overlapping routes and across networks on distribution; and
- establish a new framework for preserving competitive options for consumers (including the ability to comparison shop). Part of this review should also include an evaluation of the adverse effects on consumers of Google using its dominance in general internet search to favor its own travel content and that of vendors who pay Google for prominence; the resulting search results reduce the likelihood that consumers will find the best travel option; and
- undertake periodic reviews of the state of competition more frequently consistent with the pace of change in the industry and/or put stricter time limits for reassessing the effects on competition of extensive cooperation like JV partnerships.

DG-MOVE

should consider strictly enforcing the parent-carrier provisions of the CRS Code of Conduct to prevent unfair competition from airlines' own distribution systems against the neutral GDSs

The reason being:

- the GDS directly or indirectly supports the full range of indirect distribution channels including OTA's, bricks and mortar agents, travel management companies and metasearch;
- competition in air transport may be hampered, if major carriers operating their own distribution systems competing with the independent CRSs penalize travel agents and consumers for using independent GDSs by imposing fees or denying full content to GDSs. This situation can be addressed through a strict enforcement of the CRS Code of Conduct's parent carrier provisions which were introduced to address precisely this situation.

3 — Evolution of the Airline Industry and Implications for Policy

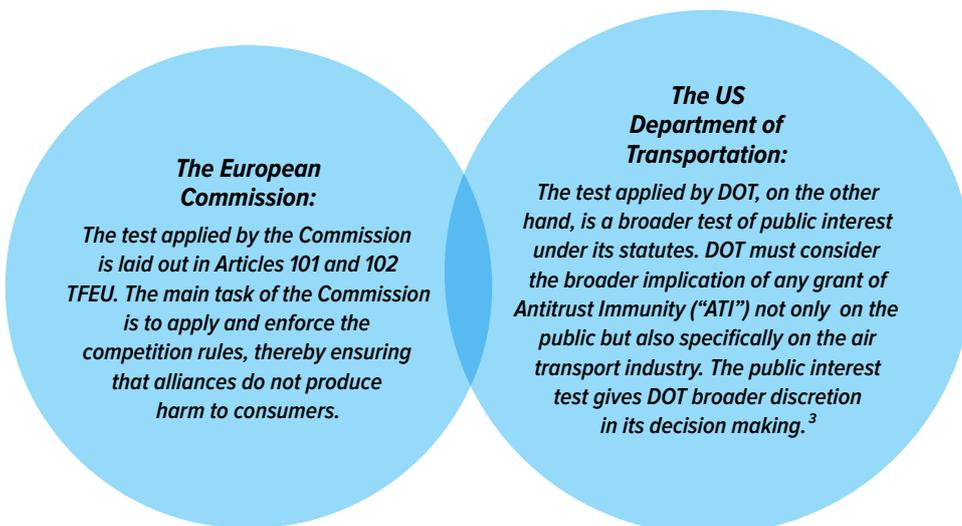
// US DOT and Europe's DG-COMP perspectives on airline competition

Ensuring a highly competitive, functioning market is the role of competition and transport authorities on either side of the Atlantic. Over the years they have accepted various mergers and partnerships in the airline industry, with the proviso that consumer interests are not harmed

- Since the the introduction of a European single market for aviation in the 1990s, the airline market has transitioned from being highly regulated and fragmented to being liberalized and pan-European;
- Following this process substantial consolidation as a result of bankruptcies, mergers, alliances, and JV partnerships was experienced;
- Where we sit today, some full service carriers (FSCs) and some low cost carriers (LCCs) have expressed interest in further consolidation;
- The important question facing the competition authorities, regulators and policy makers is whether further consolidation is in the interest of consumers.

Important distinctions exist between the ways the EU and the USDOT view consolidation. Europe looks to apply competition rules to protect consumers, whereas the USDOT looks at the broader public interest including the benefits to carriers and U.S. foreign policy interests

- In a jointly published document, the European Commission and USDOT provide a useful overview of their different approaches to evaluating codeshare alliances and closer commercial alignments, including JV partnerships.²



1. In this paper, the term Full Service Carriers (FSC’s) refers to legacy airlines that operated prior to the liberalization of the industry. Most of these carriers were national champions and operated in international markets; until very recently, they bundled various ancillary services (baggage fees, seat selection, meals, etc.) into the price of every ticket. LCC’s are the new competitors that entered the market with liberalization; many of these carriers focused on markets within Europe and imitated the Southwest Airlines’ business model, focusing on point-to-point service and low fares. Ultra low cost carriers are a more recent phenomenon; these carriers have unbundled ancillary services. Obviously, the differences between carriers is blurring as full service carriers have begun unbundling ancillaries and LCC’s and ultra-LCC’s have created bundled products.

2. European Commission and United States Department of Transportation: Transatlantic Airline Alliances: Competitive Issues and Regulatory Approaches (November 10, 2010)

3. Ibid paragraphs 70 and 71.

Importantly, both DOT and the Commission can approve airline merger and consolidation agreements that either reduce competition and/or restrict competition

- DOT may approve agreements that substantially reduce competition if:
- The agreements are necessary to meet a serious transportation need or to achieve important public benefits, and
 - If that need or those benefits cannot be met or achieved by reasonably available alternatives that are materially less anticompetitive.⁴

The European Commission (DG -COMP) may only approve a merger under the EU's Merger Regulation (Regulation EC 139/2004, also referred to as "EUMR") if it doesn't create or reinforce a dominant position - however it will often accept remedies to address potential concerns. In the airline industry, those remedies have often been the transfer of slots to new entrants or competitors on the route adversely affected by the merger. There is a debate about whether these remedies work. However, the European Commission has never to date made its merger approval conditional on an efficient effect of remedies. It is important to note that the European Commission has no means to go back and revisit or reconsider a merger clearance.⁵

Normally, agreements between companies are not approved by the European Commission, and companies must do a self-assessment of whether such agreement may be permitted or exempt under EU competition rules. However, in cases of extensive cooperation which would normally be prohibited, the Commission also has some leeway to approve agreements that restrict competition under Article 101(1) and 101(3) of the TFEU (Treaty on the Functioning of the European Union).

Article 101(1) TFEU prohibits all agreements between undertakings and concerted practices which may affect trade between Member States and which prevent, restrict or distort competition within the internal market. However, an agreement which restricts competition escapes the prohibition under Article 101(1) TFEU if it creates sufficient benefits meeting the criteria of Article 101(3) TFEU.

These criteria, which are cumulative, are as follows:

- The agreements must contribute to improving the production or distribution of goods or promote technical or economic progress;
- Consumers must receive a fair share of the resulting benefits;
- The restrictions imposed by the agreements must be indispensable to the attainment of these objectives; and
- The agreements must not afford the parties the possibility of eliminating competition in respect of a substantial part of the products or services in question.

Article 102 TFEU prohibits the abuse of a dominant position within the internal market or a substantial part of it.

Abuses are commonly divided into exclusionary abuses, which exclude competitors from the market, and exploitative abuses, where the dominant company exploits its market power by, for example, charging excessive prices.

Article 102 TFEU does not contain an equivalent exception for anticompetitive agreements as set out in Article 101(3) TFEU, whereby a firm's conduct may be deemed legal because of benefits for consumers. However, a dominant company may be able to show that its conduct, which may prima facie appear abusive, is—in light of the circumstances of the case—objectively justified and proportionate.⁶

Of particular interest to the USDOT and the Commission is city-pair level competition

- Both governments take account of factors that can impinge on actual and potential competition:
 - a. The limited availability of airport slots and infrastructure at either or both ends of a city-pair;
 - b. The frequency advantage of the parties; and
 - c. The strength of parties' position at their hubs (frequent flyer dominance, corporate contracts, extensive networks).
- Both competition authorities make their determination based on five question:
 - a. Will the combination reduce the number of independent competitors?
 - b. What substitutes remain and are they sustainable?
 - c. Is entry feasible and likely?
 - d. Can other airlines feed their networks from affected hubs?
 - e. Are there remedies to the competitive issues?

4. Ibid paragraph 52

5. In the U.S, the Department of Justice (DOJ) reviews proposals and may intervene by suing to stop a merger. DOJ has often negotiated remedies with the parties (including slot and gate transfers) as part of an agreement to allow the merger to go forward.

6. Ibid paragraphs 53 and 54

Both governments have expressed their concerns about the difficulty in designing adequate remedies to address competitive concerns

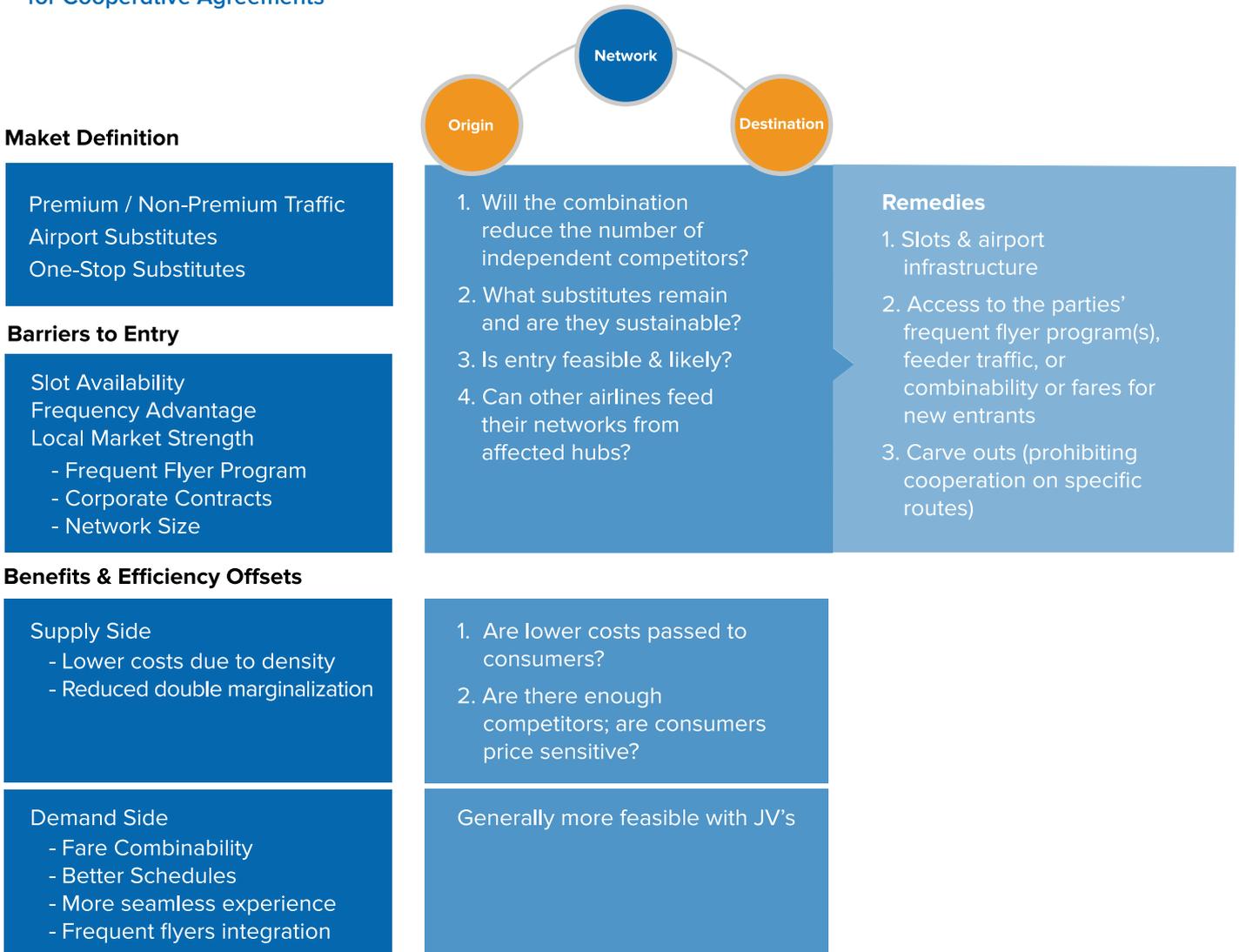
The Commission and DOT agree that one of the main challenges in the airline industry is to design a remedy that can effectively address the identified negative effects of the parties' cooperation while giving consideration to the principle of proportionality.

Given the specificities of the airline industry, it is, however, difficult to apply the traditional forms of divestiture remedy, commonly used in other sectors.

A key issue is the assessment of the barriers to entry on the route(s) of concern:

- Is it possible to design remedies which would lower these barriers such that entry on the route would become likely?
- Are there carriers whose existing networks would be compatible with potential entry on a city-pair of concern, with appropriate remedies?⁷

// Exhibit 1: EU Competition Review Process for Cooperative Agreements



7. Ibid paragraph 110

The history of airline consolidation in the U.S. shows how competition has been muted and should provide useful insight and guidelines for DG-COMP

- As U.S. airlines have consolidated, their partnerships grown and the degree of coordination expanded, concerns about the industry evolving into a more concentrated structure have been expressed in economics literature and by the government alike.
- Since 2007, in the U.S., national carriers serving virtually all markets have been reduced from seven to four, with the survivors being American, Delta, Southwest and United.
- Other airlines (including low cost carriers) are both less present in major markets and offer smaller networks.
- In Europe, the former “flag” airlines of certain Member States have purchased their former national rivals, and merged across national boundaries, with the main players now being IAG (British Airways and Iberia), Air France-KLM, and what is called the Lufthansa group (Lufthansa, Austrian, SN Brussels and Swiss).
- Thus the competition that previously existed on numerous city-pair markets within Europe has diminished, as illustrated by the discussion below about the decline of competition on Germany-Vienna city-pairs in the wake of Lufthansa’s acquisition of Austrian. Further, on scores of international routes to and from Europe, alliances between EU-based airlines and foreign airlines dominate, transforming erstwhile competitors into “partners” that face no or little head-to-head non-stop competition.
- It is true that low cost carriers and high-speed rail networks provide more effective competition for travel within Europe than in the U.S, but the U.S. experience is nonetheless a cautionary tale.
- The Economist magazine recently compared the current levels of competition in the two markets. While competition occurs at the O&D market level, some differences between the EU and the US are obvious.
- "Air fares are higher per seat mile in America than in Europe. When costs fall, consumers in America fail to enjoy the benefits. The global price of jet fuel—one of the biggest costs for airlines—has fallen by half since 2014. That triggered a fare war between European carriers, but in America ticket prices have hardly budged. Airlines in North America posted a profit of \$22.40 per passenger last year; in Europe the figure was \$7.84."
- "Standards of service are also worse. Only one operator based in America can be found in the world’s 30 best carriers, as rated by Skytrax, an aviation website, compared with nine from Europe."⁸
- The article goes on to suggest that consolidation in America has gone too far, with consumers being the main losers as they pay more for worse service than in Europe.
- This outcome is a warning for Europe concerning the consequences of further consolidation in aviation markets. The implications of more or larger networks combined in JV partnerships are likely to be negative which should make the exemption in 101(3) permitting anticompetitive combinations harder to prove, and the abuse of dominant position (section 102) potentially more relevant in a competition review.
- When considering the levels of consolidation in the airline industry in Europe, the EU might consider the adverse effects of current and further levels of consolidation on both overlapping routes and across networks, and establish a framework for preserving competitive options for consumers (including the ability to comparison shop). The details are presented below.

8. The Economist: A lack of competition explains the flaws in American aviation" (April 22, 2017)

// European market liberalization and transformation of business models

The creation of a single (largely unregulated) airline market in Europe began in the 1990s, through a set of multilateral agreements allowing for full and open access

- Prior to 1990, virtually all air transport in the EU was provided by nationalized airlines. These nationalized entities were protected by restrictive bilateral agreements and other entry barrier mechanisms;
- From the beginning of the 1990's, the European Council of Ministers began the process of creating a single, largely (economically) unregulated airline market throughout the European Union (EU) member states, additionally including Switzerland, Norway, and Iceland. These markets were roughly equal to the U.S. domestic market in passenger volume;
- This unregulated airline market was achieved through a set of comprehensive multilateral agreements. These agreements allow for (a) full and open access to any routes by any EU carrier (including eighth and ninth freedoms), (b) elimination of price controls, (c) constraint / reduction of state subsidies, and (d) liberalisation of national ownership restrictions (i.e. allowing up to 49 percent ownership by foreign nationals outside the EU, and any ownership patterns by EU member state nationals); (Brueckner & Pels);
- The process was implemented in three phases:
 1. 1990-93: Beginning with second package: 3rd and 4th freedoms but restrictions on multiple designation, 5th and 7th freedoms;
 2. 1994-2000: Expanding number of open skies agreements and 3rd and 4th freedoms in the EU created the opportunity for full service carriers to create international hubs; most carriers were privatized;
 3. 2000 onwards: EU carriers had unlimited access to EU markets (unlimited cabotage) which created the opportunity for LCCs.

The unleashing of market forces saw a radical change in airline business models (Hub and Spoke), alliances, code-sharing and service patterns, largely to the benefit of consumers

- Real change began in 1994 with the rise of the FSCs operating hub and spoke networks within Europe (thanks to 3rd and 4th freedoms) and in intercontinental markets (thanks to open skies agreements first with the U.S. and then other trading partners).
- These carriers took advantage of hub economics, which provide cost, demand and competitive advantages. By connecting traffic through the hub, the carriers reduced operating costs by building traffic density – combining local and connecting traffic to build frequency, while maintaining high load factors, resulting in lower unit costs on a route.
- The added frequency (due to connections) made hub service more attractive, while also serving as a barrier to entry.⁹ Each time a carrier added a spoke at a hub, it created hundreds of possible new connections in city-pair markets. The result was that network carriers became ascendant;
- Advances in revenue management also were a logical outgrowth of freeing up airline markets. Carriers commit to schedules six to twelve months in advance. So long as a flight is flown, most of the costs of operation are fixed. Companies therefore seek to maximize revenues on board by taking account of the different demand characteristics of passengers, differentiating between leisure (/or personal passengers) and business travelers;
- The creation of international alliances was also a logical outgrowth of fundamental hub economics. Code-sharing partnerships allow the marketing airline to expand its network into markets without incurring the financial risks associated with capacity expansion.¹⁰ With prohibitions against foreign control of national carriers, code-share alliances allowed carriers to extend networks far beyond national borders. The ultimate objective (as manifest in the three worldwide alliances oneworld, Star and SkyTeam) is to create a single-stop-shop for all air travel, regardless of continent.

It is important to note that ‘Alliances’ cover a spectrum of relationships each with separate implications for competition and consumer benefits

- Three major types of alliance are distinguishable today. These include code sharing, ATI (Antitrust Immunity in the U.S.) and joint venture (JVs).
- Code-sharing refers to including an airline’s flights in a partner’s schedule. An airline is thereby able to enlarge its network without having to fly additional flights, and can overcome regulatory prohibitions or airport infrastructure scarcity where access is prohibited or difficult. Even though the two airlines remain separate and distinct legal and operational air carriers, the airline can sell the interline tickets as if were its own; partners often share airport facilities and link frequent flyer programs;
- With ATI the partners enter into a joint pricing arrangement that usually requires exemption from anti-trust laws.

A joint venture is a virtual merger where the partners pool both revenues and costs and act as a single carrier; it represents the closest coordination between the parties.

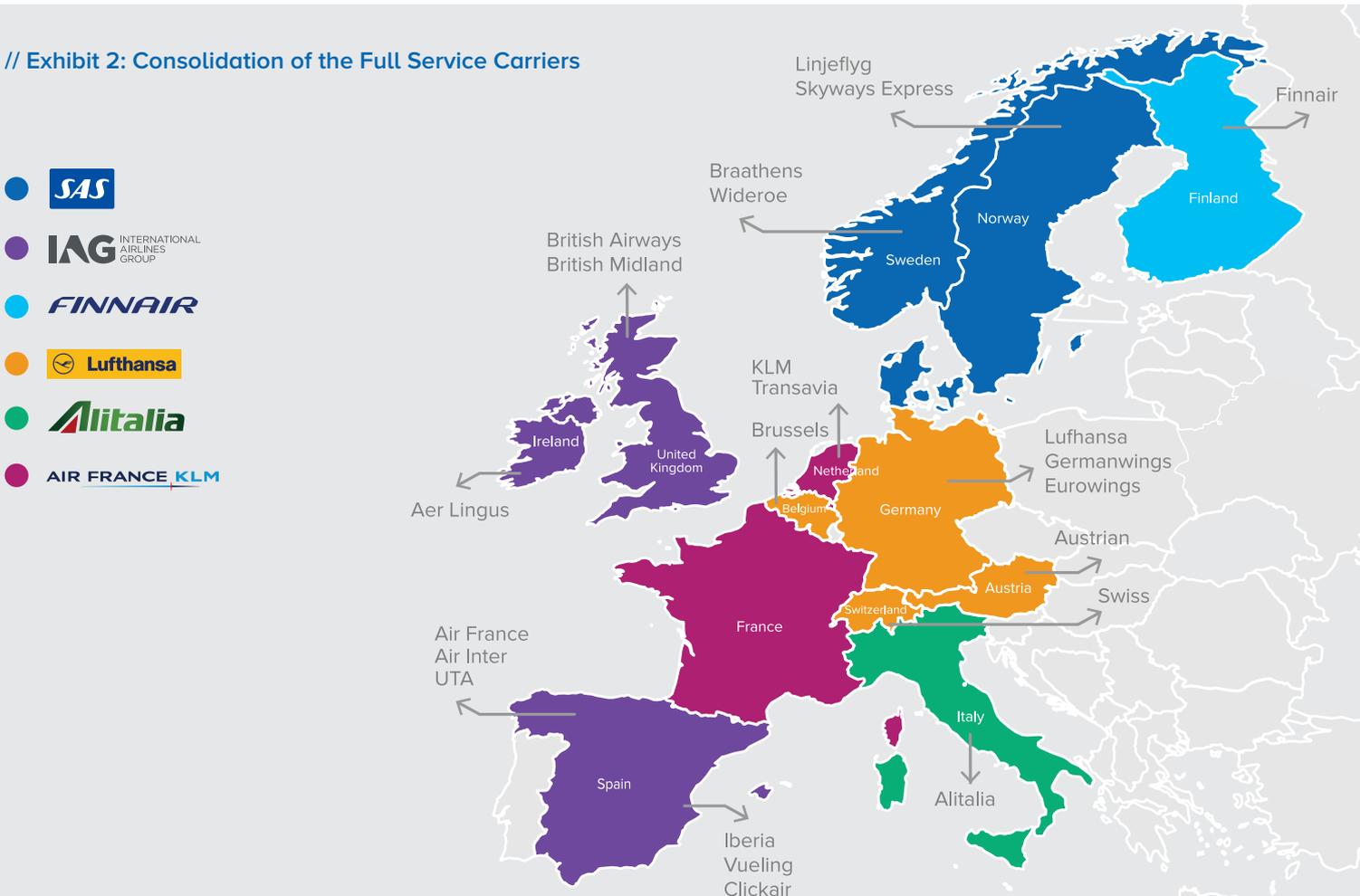
9. Borenstein and Rose

10. See for example, Alderighi et al (2014) and Alder and Mantin (2015).

FSCs found that ‘network economics’ represented a considerable incentive to consolidate

- When there are many hubs in a small geographic area, competition becomes intense in connect markets.
 Carriers with hubs located in larger communities had important advantages because the local market could be exploited to build larger hubs. All other things being equal, because the largest hubs had cost, demand and competitive advantages, smaller hubs were at a disadvantage.
 During downturns in the business cycle, FSC carriers with smaller hubs came under pressure, which resulted in mergers or business failures;
- The most recent manifestation of consolidation in Europe involves so-called cross border “umbrella” mergers like Air France/KLM; British Airways/Iberia; Lufthansa/Austrian/Swiss / Brussels that expand networks but maintain national identities and separate air carriers required in bilateral and multilateral agreements with other countries;
- This consolidation of Full Service Carriers can now be seen across Europe. Former national carriers in major population centers have now consolidated and expanded their “home markets.”
 For example, IAG consists of the British Airways, Iberia, and Aer Lingus, the former national carriers in Britain, Spain and Ireland.
 Similar consolidation has occurred in other population centers in Europe, with the exception of Italy, where after several iterations including investments by Air France-KLM, Alitalia is now partly owned by Etihad, one of the three Persian Gulf carriers. (See Exhibit 2)

// Exhibit 2: Consolidation of the Full Service Carriers



FSCs themselves came under considerable pressure as unfettered access to the European market gave rise to LCC's that proliferated throughout Europe despite a considerable failure rate

- FSCs came under pressure beginning in 2000 when airlines gained access to the entire EU market. This resulted in the rise of LCCs including business models that took advantage of secondary airports.

With access to major cities made difficult by the primacy of the FSCs and a lack of slots and associated hub airport infrastructure, many LCCs expanded to nearby secondary airports where they established crew and aircraft bases and flew point to point, adopting the low cost, single aircraft operating model pioneered by Southwest.

These carriers created density economies by lowering fares and stimulating demand;¹¹

- There was a considerable failure rate of smaller LCCs (see Exhibit 3) as not all carriers were able to establish ways to compete with FSCs or larger LCCs. For example, LCCs had more success in the UK, Spain, Ireland, Hungary; LCC's had much less success in Germany or France due to dominance of home full service carriers and their own LCC subsidiaries (e.g., Germanwings, Transavia and HOP!). (Budd 2014).



11. Charter carriers also consolidated into leisure operators TUI Travel and Thomas Cook concentrated on high density vacation destinations.

// Exhibit 3: ICAO Listing of European LLC's

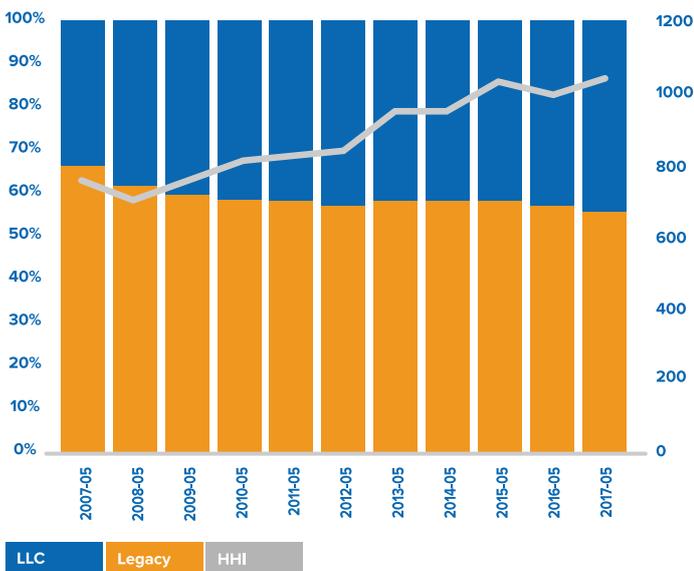
Country of AOC	Airline Name	ICAO Code	IATA Code	Beginning of Operation	Ceased Operation	Former Names	Notes
Albania	Belle Air	LBY	LZ	2005	2013		
Austria	InterSky	ISK	3L	2001			
Austria	Niki	NLY	HG	2003			
Belgium	Virgin Express	VEX	TV	1996	2006	EuroBelgian (1990-1996)	Merged with SN Brussels Airlines under a holding company SN Airholding in 2005; Brussels Airlines was formed in 2006 and took over both SN Brussels Airlines and Virgin Express in 2007
Bulgaria	Wizz Air Bulgaria	WVL	8Z	2005	2011		
Czech Republic	SmartWings	TVS	QS	2008			
Denmark	Sterling	SNB	NB	1962	2008	Sterling European Airways (1994-2005)	Bankrupted and Cimber acquired 100% in 2008
Finland	Blue1	BLF	KF	1987		Air Botnia (1987-2004)	
Finland	Flying Finn	FFW		2003	2004		
France	Aeris		SH	1990	2003	Air Toulouse (1990-1999)	
France	Flywest			2004	2005		
France	Transavia France	TVF	TO	2007			
France	Virgin Express France			1995	1999	Air Provence Charte (1995-1997)	
Germany	Condor Flugdienst	CFG	DE	1995		Deutsche Flugdients (1955-1961)	
Germany	Dauair	DAU	D5	2005	2006		
Germany	DBA		DI	1978	2007	Delta Air Regionelflugverkker (1978-1992), Deutsche BA (1992-2003)	Merged with Germania Express in 2005 Merged into Airberlin in 2007
Germany	Germania Express		ST	2003	2005		Merged into DBA in 2005
Germany	Germanwings	GWI	4U	2004			
Germany	TUIFly	TUI	X3	2002		Hapag-Lloyd Express (HLX, 2002-2007)	Integrated with Hapagfly to become TUIfly (Hapag-Lloyd Express became a marketing brand)
Hungary	SkyEurope Hungary	TVL	5P	2003			
Hungary	Wizz Air	WIZZ	W6	2003			
Iceland	Iceland Express		HC	2002	2012		
Iceland	WOW Air	WOW	WW	2012			
Ireland	Aer Arann	REA	RE	1970			
Ireland	Eujet	EUJ	VE	2003	2005		
Ireland	JetMagic		GX	2002	2004		
Ireland	Ryanair	RYR	FR	1985			
Ireland	Virgin Express Ireland		TV	1998	2001		
Italy	Air Europe			1988	2008		Merged with Volare Airlines in 2000 (became one brand of Volare)
Italy	Aire Service Plus			2003	defunct		
Italy	Blue Panorama	BPA	BV	1998			Operating under the brand Blu-Express for low-cost operations
Italy	Ciao Fly			2002	2002		
Italy	ItAli Airlines	ACL	9X	2003	2011		
Italy	Meridiana	ISS	IG	1964		Alisarda (1963-1991)	
Italy	MyAir (MyWay Aitlines)	MYW	8I	2004	2009		
Italy	Volareweb.com	PVL	VA	1997	2009		Merged with Air Europe in 2000, ceased operations in 2004, resumed operations in 2005
Italy	Wind Jet	JET	IV	2003	2012		
Malta	BritishJET			2004	2008		
Malta	Fare4U			2004	2006		
Netherlands	Basin Air			2000	2005	Transavia Limburg (1965-1966), Transavia Holland (1966-1986), Transavia Airlines (1986-2005)	Merged to Transavia.com in 2005

Country of AOC	Airline Name	ICAO Code	IATA Code	Beginning of Operation	Ceased Operation	Former Names	Notes
Netherlands	Dutchbird	DBR	5D	2000	2004		
Netherlands	Transavia.com	TRA	HV	1966			Merged with Basiq Air and rebranded Transavia.com in 2005
Netherlands	V Bird VBA			2003	2004		
Norway	Color Air			1998	1999		
Norway	Norwegian Air Shuttle	NAX	DY	1993			Formed in 1993 following collapse of Busy Bee Airlines
Poland	Air Polonia		4P	2001	2004		
Poland	Centralwings		CO	2004	2009		Became a charter only operation in 2008
Portugal	Hifly	HFY	5K	2006		Air Luxor (1988-2005)	Concentrated on charter operations as a result of sale of scheduled operations to Longstock Financial Group in 2006
Romania	Blue Air	BMS	OB	1988			
Russia	SkyExpress	SXR	XW	2007	2011		
Slovak Republic	SkyEurope Airlines	ESK	NE	2002	2009		SkyEurope Holdings AG was established in Vienna in 2005
Spain	Clickair	CLI	XG	2006	2009		Merged with Vueling in 2009
Spain	Volotea	VOE	V7	2012			
Spain	Vueling	VLG	VY	2004			
Sweden	FlyMe		SH	2003	2007		
Sweden	FlyNordic		LF	2000	2008	Nordic Airlin	Integrated into Norwegian Air Shuttle in 2008
Sweden	Snalskjutsen			2002	2005		Integrated into Malmo Aviation in 2005
Sweden	Snowflake			2002	2004		Integrated into SAS in 2005
Sweden	Sverigeflyg			2011			Comprises of Blekingeflyg, Gotlandsflyg, Kalmarflyg, Kullaflyg and Sundvallsflyg
Switzerland	easyJet Switzerland	EZS	DS	1998		TEA Basel (1988-1998)	
Switzerland	Flybaboo	F7	2003	2011			Acquired by Darwin Airlines
Switzerland	Helvetic Airways	OAW	2L	2001		Odette Airways (2001-2003)	
Turkey	Atlasjet Airlines	KKK	KK	2001			
Turkey	Corendon Airlines	CAI	7H	2005			
Turkey	Onur Air	OHY	8Q	1992			
Turkey	Pegasus Airlines	PGT	H9	1989			
Turkey	SunExpress	SXS	XQ	1990			
Ukraine	Wizz Air Ukraine	WAU	WU	2008			
United Kingdom	AB Airlines			1992	1999	Air Bristol (1992-1995)	Formed in 1992 by a group of former Brymon Airlines
United Kingdom	Air Scotland			2002	2006		Formed in 2002 for Electra Airlines (Greece), Switched agreement to Air Holland in 2003, ceased agreement with Air Holland and formed Greece Airways in 2003
United Kingdom	Air Southwest	WOW	WO	2003	2011		
United Kingdom	BMI Baby	BMI	WW	2002	2012		
United Kingdom	Buzz			1999	2003		Merged into Ryanair in 2003
United Kingdom	Debonair		2G	1995	1999		
United Kingdom	easyJet	EZY	U2	1995			
United Kingdom	Flybe	BEE	BE	1979		Jersey European Airways (1979-2000) British European Airways (2000-2002)	Merged with Spacegrand Aviation in 1985, merged with BA Connect in 2007
United Kingdom	FlyGlobespan	GSM	Y2	2002	2009		
United Kingdom	GO		GO	1997	2002		Merged into easyjet in 2002
United Kingdom	Jet Green			2004	2004		
United Kingdom	Jet2.com	EXS	LS	2002			Channel Express was rebranded and replaced by Jet2.com in 2006
United Kingdom	Manx2		NM	2006	2012		
United Kingdom	Monarch scheduled		ZB	2004			
United Kingdom	Mytravellite			2002	2005		Integrated to Mytravel Airways in 2003
United Kingdom	XL Airways		JN	1994	2008	Sabre Airways (1994-2002), Excel Airways (2002-2006)	Merged with Britannia Airways in 2005, merged with First Choice Airways to form Thomson Airlines in 2008

Following the tremendous growth experienced by LCCs, they too are facing limits to their growth thus requiring them to evolve their business models to more resemble that of FSCs

- Since 2007, LCC’s made steady progress in capturing intra-EU seats, where until recently they have concentrated operations (Exhibit 4). Today LCC’s that are unaffiliated with larger legacy carriers account for about 45 percent of seats;
- Furthermore, market concentration (as measured by the Hirshman-Herfindahl Index or HHI), in the intra-European market (taken as one broad view of the “relevant market”) has been steadily increasing as the industry consolidates; this exhibit accounts for some LCC’s being purchased by larger FSC groups (e.g. Vueling by IAG in 2013 and Germanwings by Lufthansa in 2009);

// Exhibit 4: Market Shares of Seats and HHI in the Intra-EU Marjet



- Of course, less broad definitions of the “relevant market,” such as regional markets and city-pair markets, which are the markets that actually matter most to consumers wanting to fly, will in almost every case produce much higher HHI levels;
- There is now evidence that LCCs have exhausted the opportunities at secondary airports within Europe. The remaining successful carriers are beginning to focus their efforts at primary airports, which will bring them into head-to-head competition with FSCs.

The two business models have begun to converge. LCCs are now offering bundled services (free baggage, seat selection, early boarding, free ticket changes) to attract business travelers, while FSCs have created Base Fares that include virtually no ancillaries, in order to compete with low cost operators.

FSCs and LCC’s are pushing for further consolidation in Europe based on their concerns about new threats from Persian carriers and the desire to improve profitability

- The incursion of Persian Gulf carriers in international markets is a major source of FSC complaints. These Persian Gulf carriers have built massive international hubs in the Gulf, and flow traffic between Asia, Africa, the Middle East and Europe using the same network economics as their European competitors, but with cost advantages not feasible in Europe;¹²
- Both FSCs and LCCs are now speaking about the need for further consolidation in Europe, as a way to improve profitability and the long-term sustainability of the companies.
- Usually, this profitability argument is made by comparing the European industry to the (recently more) profitable and more consolidated U.S. industry;
- This raises an important question about the evolution of the airline industry and whether it has reached a stage where further consolidation is desirable.

12. There is controversy about the size and sources of advantages of state-owned Gulf carriers, but it is clear that their non-pilot labor costs and cost of capital are low relative to private competitors.

// Airline liberalization and consumer benefits

Most studies in the past concluded that consumers have benefited from liberalization of airline markets, including code-share agreements

- Liberalization and deregulation have freed carriers to compete with fewer restrictions on where they fly, how often and what prices they charge (Button). This is true within Europe and between Europe and the rest of the world;
- Until about 2007, the economics literature and the competition authorities found that, at least in aggregate, consumers benefited from increased reliance on market forces only in airline markets;¹³
- Airlines have experimented broadly with different business models, many of which have failed. The high capital cost nature of the business, highly variable demand (due to economic and other shocks) and slow supply response have made sustained profitability a challenge for many carriers (Borenstein & Rose). Despite the high failure rate, until recently consumers have benefited from continued competition in airline markets. New entrants and existing carriers have been able to continue to attract capital because of high leverage (which increases returns to equity) and leasing (which makes aircraft capital stock variable in the medium term) (Tretheway & Markhvida).

It is important that actual and potential competition remain vibrant in airline markets including the ability to raise capital to finance entry;

- Competition authorities also concluded in past cases that code-sharing agreements generally benefited consumers. A code-sharing agreement can lead to higher passenger loads and allow participating airlines to realize economies of traffic density. This lowers the cost per seat, and other things being the same, can be expected to result in lower air fares;¹⁴
- Airline alliances also led to reduced operating costs realised though: shared back office functions, combined maintenance facilities, merged airport infrastructure, combined operational staff and integrated frequent flyer programs; (Bilotkach and Huschelrath, 2015).

13. For example, see Breyer (1982), Bailey, Graham, and Kaplan (1985), Kahn (1988), Borenstein (1992), Joskow and Noll (1994), Morrison and Winston (1995, 2000).

14. See Brueckner (2001), Brueckner and Proost (2010), Borenstein & Rose; Brueckner and Spiller (1994); Caves, et al. (1984); Flores-Fillol and MonerColonques (2007 for findings on the effects of the economies of traffic density.

- Code-sharing can also result in lower fares in interline markets when carriers avoid double marginalization which occurs when two non-allied airlines each set price margins on segments of a trip independently;
- Since each non-allied airline receives revenue only on the segment it operates, both airlines set margins without regard to the effects on revenues earned on the segment they do not fly. This is the double marginalization effect, which results in higher prices and fewer passengers flying than is the case when carriers become partners. However, if the two airlines form an alliance and share revenues on the complementary flights, both will consider the effects of margins they set on total trip revenues, thus potentially eliminating double marginalization;
- In summary, it was long argued that easy entry by new competitors, increased traffic density, other cost efficiencies and the elimination of double marginalization have been of benefit to consumers resulting in lower fares and improved service.

However policy makers have traditionally been concerned about reduced competition due to mergers or some code-share agreements between airlines that operate on competing parallel routes and with airlines that have the ability to ‘foreclose’ markets

- Traditionally competition authorities have been concerned about the potential effects of mergers and code-sharing agreements between airlines that operate competing parallel routes (referred to as wing to wing routes).
More generally, code-sharing agreements allow partners to share detailed information on seat availability and pricing, and can lead to expanded cooperation through global alliances, antitrust immunity in the U.S. (ATI), joint ventures (JVs) and mergers.
There are also concerns about cooperating partners’ ability to foreclose markets to competitors by refusing to interline with them.

Furthermore, until recently policy makers have paid little attention to the negative impact that airline consolidation has on distribution channel relationship

- Airlines and their alliance partners often dominate local markets increasing their bargaining power with corporate travel purchasers. This dominance can allow carriers to impose unfavorable, perhaps unsustainable terms to independent distributors of air travel that enable comparison shopping across multiple carriers.

In short policy makers need to revisit the positive and negative consequences of airline consolidation. A tipping point may have been reached in Europe where further consolidation is not warranted given the harm to consumers likely to result.



// Economics literature regarding further airline consolidation

New literature is now calling into question the benefits of further consolidation and JV partnerships highly coordinated alliances.¹⁵ There are at least five key concerns:

Market Foreclosure

JV partnerships (and merged partners) have incentives to foreclose markets to independent carriers by refusing to interline with them;

Higher Fares

JV partnerships may be able to raise fares in both non-stop overlap markets (an area of traditional concern) and in connecting markets as a direct consequence of closer coordination;

Non-Sharing Cost Saving

Industry structure may have changed through mergers and JV partnerships to an extent where the cost savings from consolidation are less likely to be shared with consumers;

Preservation of Margins

Consolidation has made it easier for carriers to exercise capacity discipline to increase or preserve margins at the expense of consumers;

Reduction in Comparative Shopping

JV partnerships and mergers make it easier for carriers to coordinate their policies toward independent distributors which may result in withholding information needed to facilitate comparison shopping.

15. Some of the studies refer to ATI agreements, which are less well coordinated than JV partnerships. Negative behavior in ATI agreements is likely to also be manifest in JV partnerships. There may also be incremental benefits and costs of a JV versus an ATI arrangement.

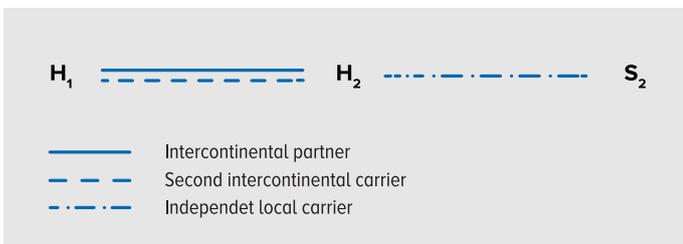
MARKET FORECLOSURE:

Merger partners and carriers in JV partnerships have incentives to foreclose competitors from markets.

Any route at a merged or partner hub airport can be adversely affected

- Market foreclosure concerns arise because alliances and joint ventures are much closer to being mergers so airlines have both the ability and incentives to foreclose markets from competition that would otherwise be present in a straight code-sharing arrangement. This foreclosure phenomena is best illustrated in a model developed by Bilotkach and Huschelrath (2012) that describes how U.S. ATI agreements may reverse some of the benefits of code sharing; The model makes it clear that competition authorities should consider the competitive impact that ATI grants in a network context, and in greater detail than a plain vanilla codeshare;
- In Exhibit 5, there are three airports, H1, H2 and S2. The latter two are on a different continent than H1. Suppose there are two intercontinental carriers competing on the H1- H2 route and that there is a third independent carrier operating from H2 to the spoke city S2, which does not have another service to H1. In this circumstance, the third independent carrier would have incentives to codeshare or interline with both intercontinental carriers in order to build traffic between H2 and S2. The independent carrier would raise its revenue and reduce its costs due to density economics. Both intercontinental carriers would benefit from increased revenue and density from the feed from the independent airline on the H2-S2 segment;

// Exhibit 5: Foreclosing a Spoke City



- Now suppose the independent operator reaches a highly coordinated ATI agreement with one of the intercontinental operators. Under an Antitrust Immunity (ATI) granted by the USDOT, the partners can jointly schedule and price the H2-S2 segment. Under a JV partnership, the independent carrier and its intercontinental

partner maximize joint profits and behave as one airline. In our very simple example, the partners may have an incentive to reduce or eliminate interlining with the competing intercontinental carrier in hopes of increasing revenue and density beyond what was feasible with plain vanilla code-sharing;

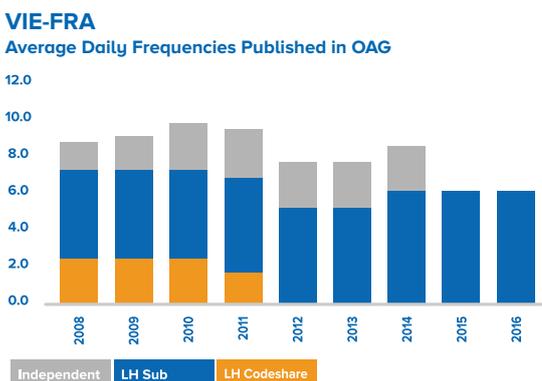
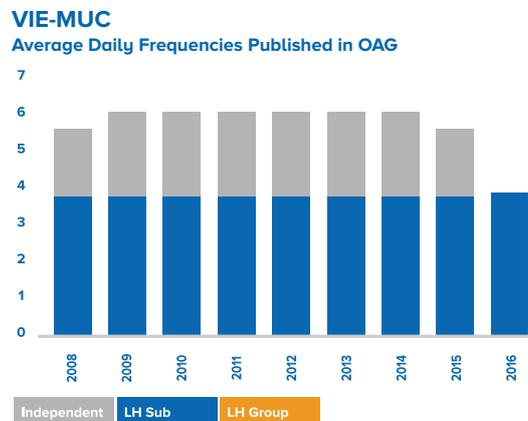
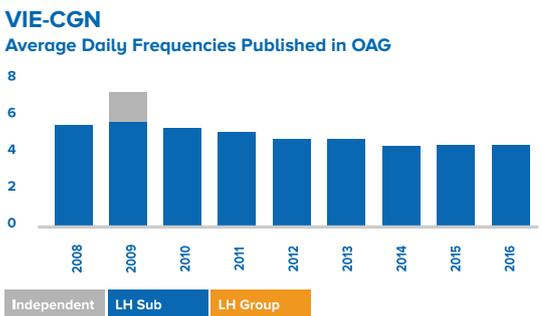
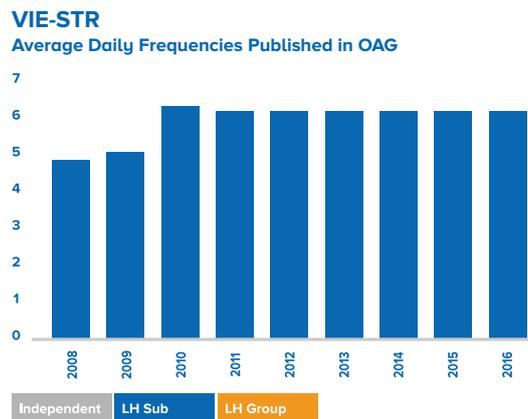
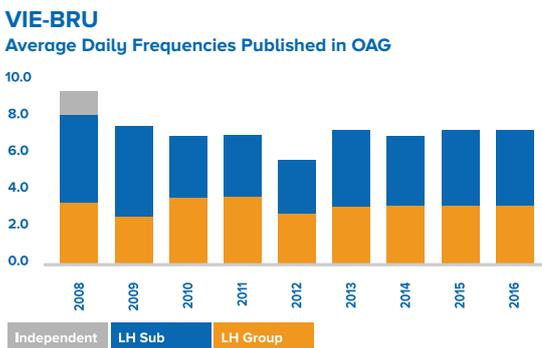
- Would consumers be better off or worse off if the partners foreclosed the competing intercontinental carrier's access to S2? There are tradeoffs, and it is the nature of the tradeoffs that need to be examined by the competition authorities. On the one hand, the ATI or JV partners would be jointly pricing and so could eliminate double marginalization. In addition, they may also improve the quality of service by improving connectivity and providing frequent flyer links and seamless service. By denying interline passengers to the competing intercontinental air carrier, the partner intercontinental airline would gain density on both the intercontinental leg (H1-H2), and it can choose to share some of that benefit with the connecting carrier in an ATI agreement. In a JV agreement, both partners would gain from increased density and optimizing capacity. If some of these benefits are passed onto consumers, consumers may be better off;
- On the other hand, the competing intercontinental carrier that is left outside of the ATI or JV partnership would experience less density on the intercontinental route, which would weaken its ability to compete on that leg. Furthermore, the consumers based in S2 or traveling there from H1 would be adversely affected if they had few or no alternative routings via other hubs. Bilotkach and Huschelrath suggest that in Europe where home country airlines dominate access to spoke cities, the incentives to foreclose interline traffic to third party airlines is especially strong. (see Exhibit 6). Of course, foreclosing interline traffic does not require a flat-out refusal to interline. Rather, this can occur where inventory available to the independent carrier is quietly throttled back, or where the "prorate" that the allied carriers demand from the third party airline as the price for selling seats on the leg of the connection they operate is set at high levels that as a practical matter make the connecting service economically unviable for the independent carrier.

// Exhibit 6: Case Study of LH-OS Slot Divestitures

As part of the approval process, the Commission in its August 2009 decision (Case No COMP/M.5440 – Lufthansa/ Austrian Airlines) directed that LH and OS make slots available to other parties, with priority given to independent competitors, in the following markets and quantities per day.

	Target Frequency / Day	Existing Independent Service	Net Increase / Day	Net Slots to be Released
VIE-BRU	4 (max 24/week)		4	8
VIE-STR	3		3	6
VIE-CGN	3		3	6
VIE-FRA	5	4	1	2
VIE-MUC	4	3	1	2

The intent of the slot release was to preserve competition on overlapping routes served at that time by Austrian and Lufthansa. The following graphs show that there are today no independent competitors in any of these markets, demonstrating that the remedies designed to address competition issues on these routes were unsuccessful. Furthermore, frequency in all but one of the markets has declined. In effect, Lufthansa/Austrian have strengthened the size and control of their home market, and reduced the number of competing alternatives available to consumers as predicted by Bilotkach and Huschelrath.



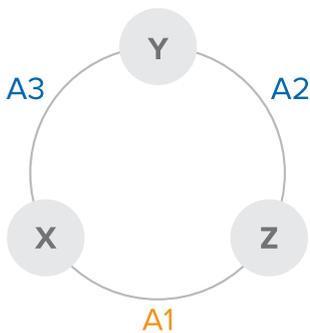
LH sub is a Lufthansa subsidiary; LH Group is an airline that Lufthansa holds a minority equity interest in; LH codeshare is a company that Lufthansa codeshares with. Source OAG Summer of 2016

// Exhibit 8: The Negative Impact of Market Structure on Fares in Connecting Markets

This exhibit shows why codesharing can be harmful for consumers depending upon market structure. The cases are drawn from a study by Chen & Gayle* (2007) and feature three airports X,Y and Z. The market of interest is XZ which is served nonstop by airline A1. Airline A2 is the only carrier offering service from Y to Z, and wants to offer connecting service in the XZ market by connecting with an airline offering service on the XY leg. The paper shows the consequences for consumers of either A1 or A3 offering connecting service to airline A2, who sells it in the XZ market.

Consumers also benefit if airline costs are lower due to economies of density.**

Case I: Brueckner's Model Showing Codesharing Eliminates Double Marginalization Two Independent Carriers (A3 and A2) Compete with a Nonstop Carrier A1



Service Offered in Market XZ	
Nonstop A1	Connect A3 & A2

No Codeshare

A3 and A2 both markup their prices for the interline connection at Y ignoring the effects on the other carrier; A2 (who tickets the interline) and A1 charge prices greater than marginal cost; consumers lose

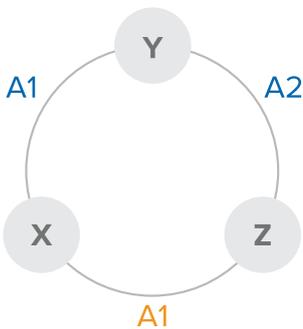
With Codeshare

A2 negotiates a codeshare paying A3 w per ticket + a fixed fee equal to a share of profits. A2 then prices to maximize their joint profits and pays A3 its marginal costs; prices in the XZ market fall; consumers are better off with the codeshare

Effect on Costs

Codeshare results in lower prices and lower costs due to more density

Case II: One Carrier (A1) Involved in Both Nonstop and Connecting Service



Service Offered in Market XZ	
Nonstop A1	Connect A1 & A2

No Codeshare

A1 has an incentive to restrict output to maximize its own profits so it charges a higher markup than in Case I; consumers are worse off

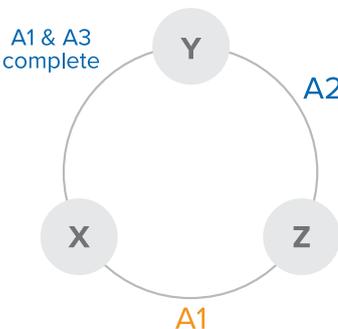
With Codeshare

Consumers are better off with the codeshare because A1 takes account of profits on the connecting service A1A2 and lowers its markup to A2; but consumers are worse off than in the Case I codeshare when A3 connects to A2

Effect on Costs

Codeshare results in lower prices and lower costs due to more density

Case III: A1 and A3 Compete on XY Route and to Develop Codeshare with A2



Service Offered in Market XZ	
Nonstop A1	Connect A1 or A3 & A2

No Codeshare

A1 and A3 compete to connect with A2 and their prices fall to marginal cost; same result as Case I with codeshare but in Case III consumers are better off without codeshare

With Codeshare

A1 is able to offer A2 a better deal than A3 (w + fixed fee) because joint profits A1A2 (XZ nonstop + XYZ connect) exceed joint profits A3A2 (XYZ alone). A3 is blocked. Prices in the XZ market exceed marginal costs and consumers are worse off with codesharing

Effect on Costs

Codeshare results in higher prices and higher costs due to less density

* Chen, Y., Gayle, P.G., 2007. Vertical Contracting Between Airlines: An Equilibrium Analysis of Codeshare Alliances. International Journal of Industrial Organization. ** Borenstein & Rose report modest density economies, with costs falling by 15% if passenger miles double. How Airlines Markets work...or Do They? Regulatory Reform in the Airline Industry (NBER Working Paper 13452)

- In the empirical section of their 2012 paper, Bilotkach & Huschelrath find evidence of market foreclosure by ATI partners who refuse to accept passengers of non-allied airlines which causes a reduction in competing service at partner's hubs. This is the effect illustrated in Exhibit 6;
- Others have noted that the coordinated behavior of code-sharing partners can serve as a threat to potential entrants, thus protecting the monopoly power of the alliance. Zhang and Zhang (2006) develop a theoretical model that shows that an alliance that is created to offset the threat of market entry can reduce consumer welfare;
- Independent airlines have confirmed that ATI and JV partners do foreclose access. The Hawaiian Airlines filing in the American-Qantas Joint Application for Antitrust Immunity discusses why ATI partners do not have incentives to deal with third party airlines. Hawaiian indicates that:
 - a. the terms of the exclusivity clause contained in ATI agreements give partners veto power over future cooperation with former interline partners;
 - b. the grant of immunity will increase partners' incentive to limit an independent carrier's access to the combined network; and
 - c. experience with other interline partners that receive antitrust immunity has demonstrated that the alliance partners reduce the traffic exchanged with Hawaiian and limit the inventory available for the interline carrier to sell.
- One of the potential consequences of foreclosure is increased prices in markets where competition has been damaged.

HIGHER FARES:

Consumers experience higher fares in non-stop and connecting markets, contrary to the intended impact attributed to ATI or JV partnerships:

- Traditionally, competition authorities have been concerned about the effects of alliances on overlapping non-stop routes. Early evidence suggested that because of elimination of double marginalization, fares in connecting markets would fall via alliances;
- Several studies report results indicating that code-sharing leads to higher fares for travelers on non-stop routes. Wan, Zou, and Dresner (2009) find that the effects of alliances on non-stop fares is uncertain, possibly depending on the ability of partners to coordinate pricing. Armantier and Richard (2006), DOJ (2011), and Gilo and Simonelli (2015) all report significantly higher fares on nonstop code-shared flights relative to comparative flights offered by non-allied carriers. Also, DOJ (2009a, 2009b) cite evidence of anticompetitive effects on gateway-to-gateway routes. Brueckner and Whalen (2000) report a point estimate of a five percent premium on code-shared gateway-to-gateway flights, but they also note that the estimate is not statistically significant;
- Gilo and Simonelli's paper is the most recent of these and potentially the most instructive. They focus solely on the effects of code-sharing on prices in nonstop routes where the two partners compete in the U.S. They suggest that code-share partners participate in a roundtable where they exchange "commercially sensitive information and coordinating prices and frequencies (tacitly or explicitly). Codesharing airlines may also have more opportunities to 'punish' a company deviating from a collusive price. As a result, codeshare agreements (CSAs) may ease collusion both on code-sharing flights and on flights independently operated by each signatory company for the non-stop route on which they cooperate."

- They also detect that partners on nonstop routes markup fares twice; both the operating and marketing carriers markup the fares resulting in a premium above levels offered by other carriers or in cases where there is no codeshare agreement. Thus, in this instance an alliance causes double marginalization, whereas Brueckner argued alliances eliminated it in connect markets. This behavior only works when both parties have market power to markup fares above marginal costs.

“The ticketing carrier’s marginal costs, and therefore the final price it charges, are inflated. Thus, airfares for code-sharing flights may be influenced not only by collusion between code-sharing partners but also by double marginalization. The double mark-up that follows when both conditions simultaneously exist, harms consumers and is potentially anticompetitive.”

- Recent literature now questions whether consumers achieve the anticipated benefits in connecting markets made possible through ATI or JV alliances.
In fact, these studies find little or no marginal benefit to consumers in connecting from ATI or JV partnerships. Traditionally it was thought that consumers may gain benefits via codeshares or mergers in former interline markets due to the elimination of double marginalization which results in lower prices, more passengers and greater density economies. Using 1999 data, Bilotkach (2007) finds that alliances with and without antitrust immunity have equivalent prices for economy-class connecting tickets. Likewise, Brueckner, Lee, and Singer (2010) find little, if any, fare effect from immunity for economy-class tickets, which represent 95 percent of all tickets sold to passengers.

By comparing tickets of ATI partners with those of plain vanilla codeshare and interline partners, Gillespie and Richard using data for the period 2005-2010, provide empirical evidence on trans-Atlantic connecting fares that shows that immunity by itself is in fact not necessary to reduce double marginalization;

- New studies also show that marketing carriers in an alliance charge higher prices than operating carriers (which seems to run against Brueckner’s double marginalization finding showing fares fall with codeshares on connecting routes). Alderighi, et al. (2014) use data on flights between the UK and European airports to study the effects of codesharing agreements on the time profile of airfares. They find that code-sharing is associated with higher fares, especially for early bookers. They also report higher fares by marketing carriers;
- Some recent studies have focused on the effects of antitrust immunity and joint ventures. Using data on flights to and from Israel, Adler and Mantin (2015) test for differential effects of various types of codesharing agreements—free sale, hard block, soft block, pooling agreements, and royalty agreements. They find that pooling and royalty agreements (the most highly coordinated versions) lead to higher fares, and block and free sales are associated with lower fares;
- Studies filed in connection with petitions filed by the Star Alliance to include Continental and the American Airlines/British Airways/Iberia bid for antitrust immunity have generated considerable debate about the effects of immunity. Using 2005-2008 data, a DOJ (2009a) study filed in opposition to the Star Alliance petition, found that immunized fares are higher than comparable online fares. A second study, DOJ (2009b), filed in connection with the American Airlines/British Airways/Iberia antitrust immunity bid, found that immunized fares for three major alliances were significantly higher than comparable non-immunized fares for the same alliances;¹⁶

16. These findings contrast with studies presented by Willig et al. (2009, 2010) on behalf of applicants in the American Airlines/British Airways/Iberia petition showing lower immunized fares. This discrepancy is apparently due to a debate about whether to include controls for the identities of individual carriers in the statistical models. Willig, et al., who include such controls in their models, argue that DOJ’s omission of these controls causes them to confound the effects of pricing differences among carriers with the competitive effects of immunity. DOJ, on the other hand, argues that including control variables associated with individual carrier identities is inappropriate because they are highly correlated with market power and tend to reduce the statistical significance of the effects of immunization

- A follow up DOJ (2011) study argues that findings from earlier studies using data from the 1990s may no longer be applicable in an aviation market that experienced significant changes through financial restructuring, mergers, and other types of cooperative agreements. They also note that while Brueckner, Lee and Singer (2010) use data up to 2009, they find only very small or statistically insignificant effects of immunity on economy-class tickets, which represent most of the tickets sold in their data. Using data from 2005-2010, DOJ finds that antitrust immunity reduces competition in routes where partners offer competing flights and increases fares paid by trans-Atlantic non-stop passengers. They also find that the alliances result in lower fares for connecting passengers, but argue that antitrust immunity is not needed to produce this benefit;
- In sum, there appear to be few incremental benefits to consumers of ATI and JV partnerships in terms of lower fares. In some instances, fares appear to be higher in these alliances than in less coordinated code-share partnerships. Closer coordination appears to be correlated with reduced output as well;
- Of course, there may be some service benefits from an alliance that might offset some of the costs of closer coordination. But at least some of these like new service between two city-pairs are available via a plain vanilla codeshare agreement. Others may only be available via closer coordination –e.g. better scheduling or service offers made available via ATI or JV alliance or a merger. So the tradeoff may be higher prices and less total output (seat offers) against somewhat better service. This is precisely the tradeoff that the Commission anticipated in its discussion of Article 101(3) and 102 (see section 1 above) concerning agreements that may harm competition. One of the features of the Commission’s assessment is establishing that the benefits offset the costs, consumers must receive a fair share of the benefits and there are no other ways to obtain the benefits;
- Recent developments in the U.S. market suggest that this may represent a high hurdle;

- Airlines have increased pricing power in consolidated markets and are able to keep more of the cost savings realized through mergers and ATI/JV partnership. Goldman Sachs, in a research note, used airline consolidation in the U.S. as an example of what it termed “Dreams of Oligopoly” that result in increased pricing power for carriers in a less competitive environment:

“There is a natural pull toward consolidation among mature or maturing industries. An oligopolistic market structure can turn a cut-throat commodity industry into a highly profitable one. Oligopolistic markets are powerful because they simultaneously satisfy multiple critical components of sustainable competitive advantage – a smaller set of relevant peers faces lower competitive intensity, greater stickiness and pricing power with customers due to reduced choice, scale cost benefits including stronger leverage over suppliers, and higher barriers to new entrants all at once.”¹⁷

- Goldman Sachs goes on to explain how the AA/US merger, involving the consolidation of 9% of the U.S. market pushed the U.S. airline industry HHI above 2,000, a level where it observes the impacts of oligopoly. HHI, used by competition authorities as a measure of industry concentration, is defined as the sum of the squared market shares of competitors. A monopoly has an HHI of 10,000 (100 x 100). The Goldman report also mentions that in contrast the European airline industry remains intensely competitive and less susceptible to these impacts;

17. Goldman Sachs: Does Consolidation Create Value? (February 12, 2014)

— Koopmans and Lieshout¹⁸ calculated HHI scores for all airline city-pair markets worldwide for the year 2010 using MIDT data. In the analysis, they merged data from adjacent airports in a region, so that for example, in the London-New York market, all airports in each city were treated as one. They also excluded competitors with fewer than five percent of a market and assumed alliance partners do not compete with one another.

As they explain, HHI's below 1,000 are usually found to be competitive. Markets with HHI's between 1,000 and 1,800 are moderately concentrated while those with higher HHI's are usually found to be concentrated.

They found that 99 percent of airline city-pair markets world-wide are concentrated and have HHI's in excess of 1,800. Only two percent of passengers worldwide travel in markets that have HHI's less than 1,800. About 75 percent of passengers travel in oligopolistic markets with two to four airline/ alliance competitors;

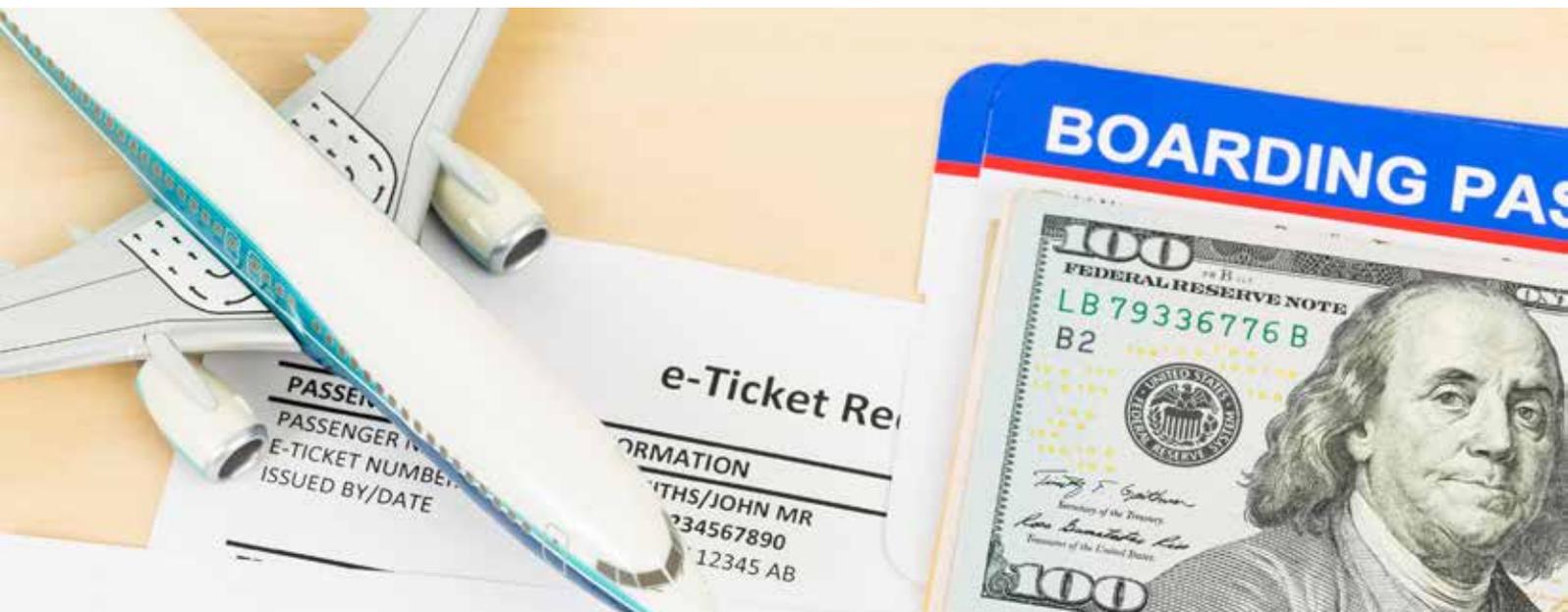
— Koopmans and Lieshout go onto describe airline markets as being primarily differentiated oligopolies. This means that there are few competitors in each market, but competitors differentiate their service offers – flight frequency, baggage fees or allowances, frequent flyer plans, service characteristics. Airlines choose their schedules first and then use revenue management to maximize revenues given these commitments.

The resulting Cournot model of airline markets has important implications for the pass through of cost-related benefits that could potentially accrue from economies of density realized in an ATI or JV alliance or a merger. They show that cost savings will only be passed through to consumers when one competitor undercuts the coordinated price among the limited number of competitors. When the number of competitors is reduced, it is easier to coordinate prices and competitors have fewer incentives to cut prices to increase share.

One implication of this is that in the intermediate term, carriers may have incentives to coordinate capacity, which makes it less likely any one party can gain by undercutting prices.

If competitors coordinate capacity to keep prices high, then important economic benefits of JV's or mergers are not being passed forward to consumers.

18. C. Koopmans, R. Lieshout / Airline Cost Changes: To What Extent Are They Passed Through to the Passenger Journal of Air Transport Management 53 (2016) 1e11



- If we extend the implications of rising HHI’s again using the Cournot model, we note that carrier margins should rise with increased concentration. It is well known that, all other things being the same, in the Cournot model the equilibrium operating margin (P-C/P) equals HHI/E, where P is price, C is cost, and E is the elasticity of demand. When HHI’s rise, then all other things being equal including fuel costs and income growth, we would expect airline operating margins to also rise.
- In Koopman and Lieshout’s model, markets with HHI’s between 1,000 and 1,800 are moderately concentrated while those with higher HHI’s are classified as concentrated.¹⁹
- This concentration effect is illustrated in the transatlantic market, (defined as Canada and the U.S. to Europe as far east as western Russia and Greece).

Using Koopman and Lieshout’s criteria for concentration, since 2007, HHI has risen in the transatlantic theatre from Competitive (HHI less than 1,000) to Moderately (HHI up to 1,800) in ten years. While there are other factors that affect operating margins (including changes in income which depressed demand during the Great Recession and increasing fuel costs), U.S. carrier transatlantic operating margins have increased substantially since 2007 (just prior to the recession). (Please see Exhibit 9).

This is consistent with Goldman Sachs’ views on the expanded pricing power being enjoyed by U.S. carriers in more consolidated markets,²⁰ and the Cournot model described above.

// Exhibit 9: U.S. Carrier Transatlantic Operating Margin vs. HHI



19. See Koopmans and Lieshout for a discussion. DOJ and FTC use 1500-2500 as an HHI level indicating moderate concentration. See DOJ Horizontal Merger Guidelines(2016)

20. Data in the chart are from USDOT Form 41 for the years shown and the OAG for May (an average month) of each year shown. The recession dates are taken from the National Bureau of Economic Research, which is the official arbiter in the U.S.

- As shown previously in Exhibit 4, the level of concentration in the broadly defined intra-European market has just breached an HHI of 1,000, indicating moderate concentration.²¹ Legacy carriers have consolidated and expanded their “home” markets, where they tend to dominate hubs in major cities, but they have also brought LCC carriers into their groups to ward off the competition by independent low cost carriers like Ryanair, easyJet and Norwegian. Further consolidation in Europe could reduce the intensity of competition both within Europe and in major theaters like the Transatlantic.
- Of course, airline competition takes place at the origin-destination and airport pair level of aggregation as well. As Koopmans and Lieshout show, HHI’s at this level of aggregation are higher in most city-pair markets in the world.

- Multimarket contact is a measure of the number of markets in which firms encounter each other. The idea is that firms constrain their pricing behavior when they have extensive multimarket contact which serves to pool the incentive constraints from all the markets served by the two firms.
 This means that the more extensive the overlap in the markets that the two firms serve, the larger are the benefits of collusion and the costs from deviating from a collusive agreement.
 One reason is that an airline that makes a price reduction in one market risks a response across many more markets.
 Ciliberto and Williams (2012) find that airlines that compete across multiple markets are less likely to initiate pricing actions in overlapping markets. This behavior has been detected in the U.S. market. They conclude:

One important mechanism for maintaining prices, or avoiding aggressive pricing, is through multi-market contact.

“Carriers with a significant amount of multimarket contact (e.g. Delta and US Air served 1150 markets concurrently in the second quarter of 2007) can sustain near-perfect cooperation in setting fares.”

21. See Koopmans and Lieshout for a discussion; DOJ and FTC use 1500 as an HHI level indicating moderate concentration. See DOJ Horizontal Merger Guidelines(2016)

NOT SHARING COST SAVINGS:

Preservation of margins: Consolidation has made it easier for carriers to exercise capacity discipline to increase or preserve margins at the expense of consumers:

- In situations where demand outstrips supply, prices increase.
- Exhibit 10 shows some of the indicators in the U.S. domestic market. It shows the growing share of domestic seats by the Big 4 carriers as a result of consolidation since 2007.

Notice that the absolute level of seats in the U.S. domestic market is still fewer than was available 10 years ago despite real GDP growth of over 10 percent since then.²²

Since airline demand is tightly correlated with GDP growth, by restricting supply, carriers have doubled their margins. Helping this outcome is lowered fuel costs, but operating margins shown in the Exhibit 10 were rising even when the carriers were paying more than \$3.00 per gallon of fuel.

// Exhibit 10: U.S. Carrier Domestic Operating Margin and Seat Growth



22. Consumers have filled more airline seats. Load factors have increased from 80 percent to almost 85 percent since 2007 in U.S. domestic markets according to U.S. DOT T100 data.

– DOJ recently launched an investigation into whether the Big 4 U.S. carriers have been signaling capacity levels to each other as a means to coordinate (/restrict) domestic supply where they account for approximately 80 percent of the seats.

These concerns may have arisen out of the public comments made by various airline CEOs. In a letter to DOJ Antitrust Division, Senator Richard Blumenthal cited quotations from various U.S. airline CEOs as indication of the phenomenon:

“Delta Air Lines’ President was quoted at the IATA conference stating that:

‘[Delta is] continuing with the discipline that the marketplace is expecting.’

Air Canada’s CEO made a parallel comment:

‘People were undisciplined in the past, but they will be more disciplined this time.’

Last month, the CEO of Southwest Airlines declared plans to expand capacity by as much as eight percent, which many in the industry viewed as a preface to cutting fares. However, the Times reported:

‘After coming under fire at this week’s conference, Southwest quickly moved to reassure investors it isn’t going rogue.’ ‘We have taken steps this week to begin pulling down our second half 2015 to manage our 2015 capacity growth...,’ [Southwest’s CEO] said.”²³

American Airlines’ CEO remarked:

“... that airlines had learned their lesson from past price wars set off by competition and that, I think everybody in the industry understands that.”

23. <https://www.blumenthal.senate.gov/newsroom/press/release/citing-unprecedented-consolidation-within-airline-industry-blumenthal-urges-doj-to-investigate-potential-anti-competitive-anti-consumer-behavior-and-misuse-of-market-power> (letter dated June 17, 2015)

- Without pre-judging the DOJ investigation, it is obvious that capacity discipline is easier to implement in a consolidated market, where there are fewer players to coordinate.
- One remaining problem for carriers coordinating capacity is that if other carriers, such as LCCs, are growing faster than the overall growth in demand, this puts downward pressure on prices.

In a differentiated industry (where services vary by airline, class of service, frequent flyer status, cabin, time of day etc.), one way to deter LCCs is to match their prices selectively with so-called “basic fares”, which is the price of a seat stripped of most ancillary services (including seat selection).

While basic fares may reduce average fares for legacy carriers, the cost may be less than the immediate and longer term effect of LCC’s expanding and becoming stronger over time.

This is an example of how investing in deterrence can be seen as being consistent with incentives to preserve margins by coordinating capacity growth. The fact that legacy carriers are offering basic fares at all is also testimony to the remaining competitive influence of LCC’s and the value of preserving competition.

PRESERVATION OF MARGINS:

ATI/JV partnerships and mergers can make it easier for carriers to coordinate their policies toward independent distributors which may result in withholding information needed to facilitate comparison shopping:

- The preceding suggests that mergers, and ATI and JV partnerships, raise fares and reduce output. Consolidating airlines foreclose markets to competitors, are less likely to share cost saving with consumers, and grow their profit margins by coordinating capacity growth. Further consolidation may result in higher prices and less output in the European airline industry.

The primary offsetting benefit may be somewhat better service offers in some city-pair markets.

The Commission has indicated that if these offsetting benefits exceed the costs of higher prices and lower output, and consolidation is the only way to obtain the benefits, then the key to approving further consolidation is whether consumers are likely to realize a fair share of the benefits.

Of course, consumers need to be able to find out about the service improvements in the first place and the most effective way to do this is by comparing competing offers side by side.

This kind of comparison shopping is made possible by independent distributors today, but airlines now are seeking to weaken comparison shopping by denying content to GDSs and their client travel agents, metasearch sites and travel management companies.

If comparison shopping is hindered, it is less likely that consumers will realize the benefits of further airline consolidation if the Commission chooses to allow it;

- Consolidation (mergers, joint ventures and ATI alliances) can have adverse consequences for consumers in terms of higher prices and reductions in service. In any market, but especially in a highly differentiated oligopoly, consumers will need to rely even more on comparison shopping to find the best offer consistent with their travel needs and budgets;



- During the past decade, carriers have chosen to unbundle features like baggage services and seat selection that formerly were integral parts of the basic service purchased with a ticket. Unbundling can enhance consumer welfare in circumstances where it increases choice; some consumers may choose to not buy a product feature and thus conclude a transaction that more closely corresponds to their needs. But there is evidence that unbundling can have adverse effects on consumers, especially when fees for ancillary services are hidden from some distribution channels, information on them is made available only after consumers have made a significant commitment shopping for alternatives, or more generally when it is hard to compare one airline's offer with another's;
- There is substantial economic literature on this issue, broadly defined as search costs. The theory of competitive markets rests on the notion that buyers will seek sellers offering a good or service at the lowest price. However, effective competition among sellers occurs only if buyers are informed about prices. If buyers are uninformed, then sellers have incentives to raise prices above competitive levels. Empirical evidence would then show both higher prices and greater price dispersion (variation) than one would find in competitive markets because sellers could exploit variations in consumer tastes and willingness to endure search;

- The conclusion that search costs lead to supra-competitive prices dates back to Stigler (1961). Since Stigler's study, numerous authors have investigated the effects of limits on consumer information in a variety of market settings. Consumers begin shopping with expectations about market prices and product characteristics, but can obtain information about offerings from specific sellers only by incurring search costs. Some studies have divided consumers into groups based on how informed they are about the market or by differences in willingness or ability to "shop." Salop (1979) distinguishes buyers based on differences in search costs and Salop and Stiglitz (1977) divide buyers into "tourists" and "natives". Stahl (1989) considers "high" and "low" cost shoppers, and Ellison (2005) examines a market populated by consumers differing in their likelihood to purchase add-ons. Garrod (2007) distinguishes between "naive" and "sophisticated" consumers. More recently, Ellison and Ellison (2009a) conclude that price obfuscation leads to reduced consumer sensitivity to prices;

All of these studies show that as search costs increase, consumers pay higher prices and/or select less than optimal options because of incomplete information or a false conclusion that they have found their best option.

- Consumer access to the internet reduces average fares and increases price dispersion (Orlov 2011). The data used in this study predates the time when an airline's strategy of unbundling ancillary services and obscuring their fees was commonplace.

One conclusion that can be drawn from these studies is that when consumers have access to efficient comparison shopping, average prices fall; increases in price dispersion reflect remaining variations in consumer tastes and attempts by suppliers to manage offers, as is common in the airline business;

- In today's market place, consumers can buy airline tickets directly from the airlines themselves (via internet sites primarily), via on-line and off-line travel agents or travel management companies, both of which depend on GDSs to assemble competing offers from the carriers, or through metasites that refer consumers to OTA's or the airlines.

The key distinction is that on airline sites, competing carrier offers are not available. If a consumer wants to comparison shop, the most convenient mechanism is via one of the independent distribution channels. On the other hand, travel agents, metasearch sites and travel management companies have not always been provided full information on fares and ancillary service fees by the airlines;

- The avoidance of comparison shopping has also been the strategy of everyday low pricing (EDLP) carriers (like Southwest and JetBlue) who do not sell extensively through on-line travel agents (OTAs). Sin et al (2011) investigated this distribution decision. They conclude:



“Further empirical investigation reveals why EDLP airlines forgo participation in OTAs that potentially offer a larger market. In particular, while promising a larger marketplace, OTAs have the ability to reveal the lowest prices in the market; we find that EDLP prices are lowest in the market only 26 percent of the time – in other words, consumers have a 70 percent chance of obtaining a better deal from other “non-low price” airlines for any given ticket.”

- Without full information, many of the benefits of comparison shopping can be lost. In a recent regulatory evaluation of its supplemental notice of proposed rulemaking to require that baggage fees be available to consumers using travel agencies or travel management companies, USDOT made clear why consumers value having this information contemporaneously available, regardless of the venue where they choose to shop:

Research on salience of full pricing information, i.e. when the complete price is presented to consumers, has found that when consumers actually see the full price (with fees, shipping and handling, taxes, etc.) impacts the amount that consumers buy. When presented with the full price later in the process, consumers tend to buy more. If revealing full-prices (including baggage fees) later in the purchasing process leads to paying more (by making purchases that they otherwise would not have) than if the full price had not been seen immediately, then some consumers are making what economists term “sub-optimal” choices. In such situations, there is what economists would call a “dead-weight loss.”²⁴

24. U.S. DOT: Initial Regulatory Impact Analysis for Supplemental Notice of Proposed Consumer Rulemaking regarding Transparency of Airline Ancillary Service Fees (December 19, 2016) page 6.

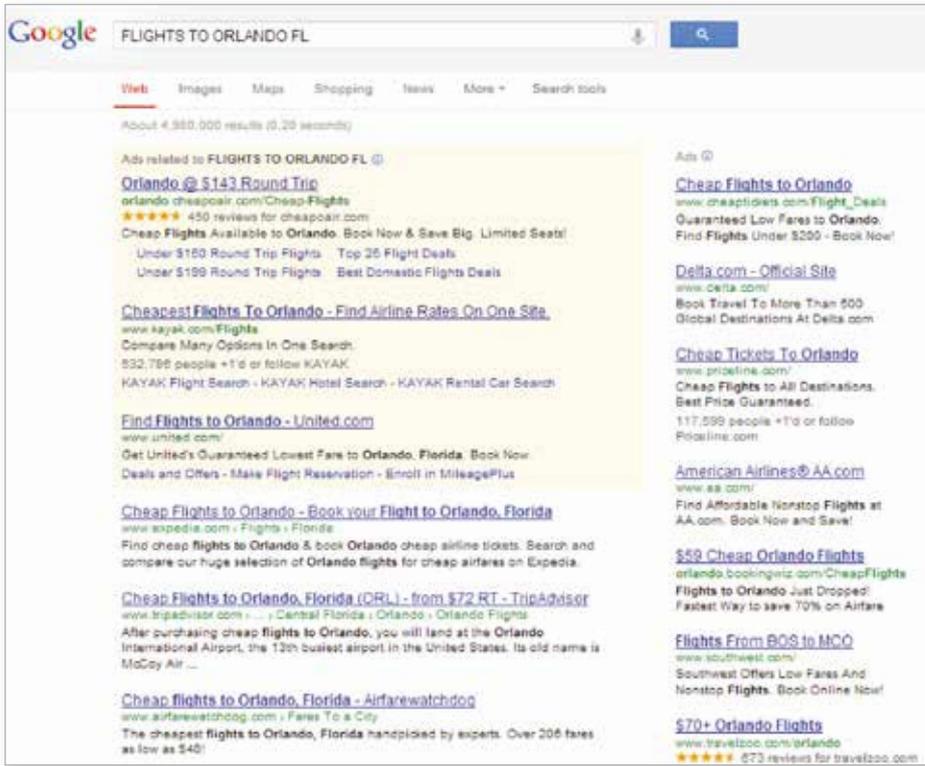


REDUCTION IN COMPARATIVE SHOPPING:

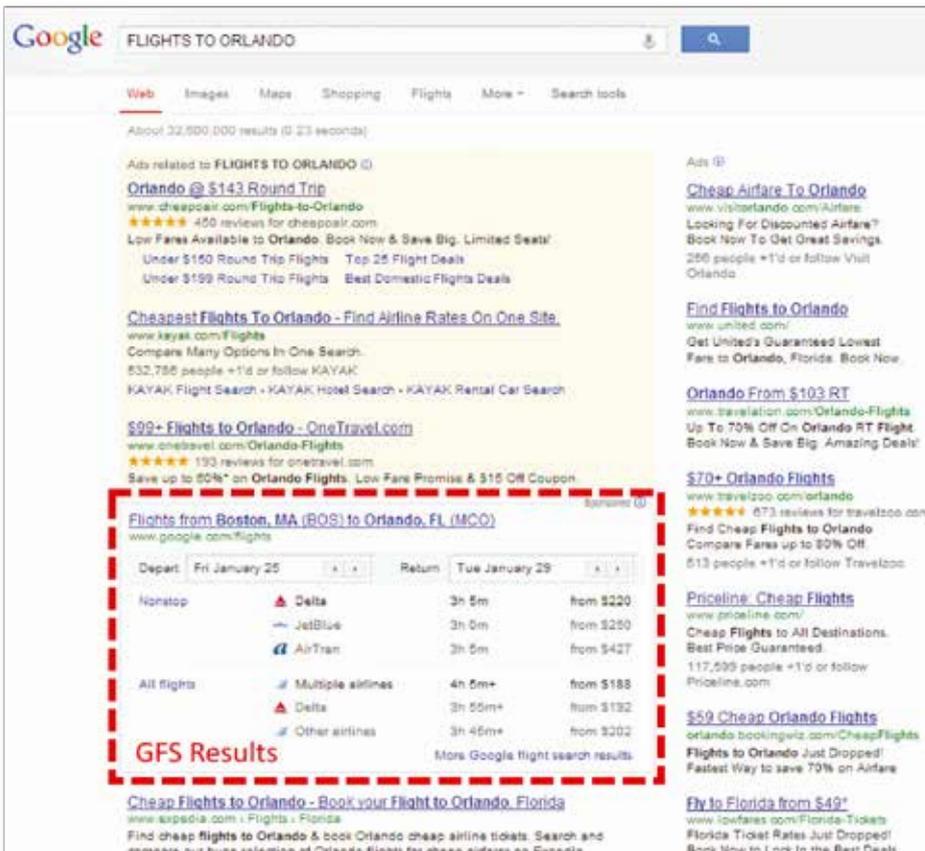
Recent developments in the general Internet search market also appear to be working against the interests of consumers and may reinforce airline strategies to deny consumers the benefits of comparison shopping:

- Google now offers Google Flights (GFS), which is embedded in its general search engine results. If a consumer types in flights from point A to point B or similar queries into the search box, Google returns a set of results that prominently includes its own results in much greater detail than it permits for other offerings, both paid and “organic” (or unpaid). Because of its dominance in the overall search market, there is concern that Google’s forays into downstream markets like travel could harm consumers who may be denied information on flight offers better suited to their needs. Edelman and Lai (2016) recently analyzed the impact of Google Flights on consumer search results and found areas of concern;
- Exhibits 11 and 12 illustrate the difference in flight search results when Google Flights is not present (Exhibit 11) and when it is (Exhibit 12). Notice that without Google Flights in Exhibit 11, a search for “Flights to Orlando” returns paid advertising results on the top, unpaid results on the bottom and a set of other paid results in the right column. Unpaid results include two OTA’s (Expedia and Travelocity), a Metasite (Kayak) and other travel search sites including TripAdvisor. It is well known that prominence on the first page has an important influence on consumer selections;
- Once Google Flights is included in Exhibit 12, the unpaid results move down and mostly off the first page of results. What remains are paid advertisements and Google Flights results. Notice that the latter provides more relevant information for the consumers on specific flight offers than Google provides for other search results. Not surprisingly, the insertion of Google Flights affects which information sources consumers choose to continue their search;
- Edelman and Lai show that the insertion of Google Flights is likely to affect consumer choice of comparison shopping information:
 - Salience searchers (those most likely to be affected by the prominence of search results) switched significantly to GFS results;
 - Relevance searchers (those most likely to be affected by the relevance of search results to their own travel plans) moved significantly to paid sites due to their first page prominence.

// Exhibit 11: Normal Google Results



// Exhibit 12: Google Results with Google Flights (GFS)



- The implications of diverting salience searchers to GFS and relevance searchers to paid sites depend on what they find there and how much it costs. Although the GFS offering has changed in some ways since their article, the results suggest how powerful Google’s design features can be in influencing consumer choice. With regard to GFS, Edelman and Lai indicate the following:

Google indicates that GFS displays flights according to Google’s assessment of a user’s requirements and that it rates a flight equally whether or not the airline pays to participate in GFS...

It seems, however, that the appearance of the “Book” button is contingent on an airline’s participation in GFS: If an airline participates, the button is red and works as expected; if not, the button is gray and nonfunctional.

Notably, an airline’s participation in GFS is understood to require the airline to pay fees, although there may be some exceptions (particularly immediately upon GFS’s launch).

At launch, Google indicated that the “Book” button in GFS would link only to airlines’ own sites (i.e., not to OTAs).

By clicking the “Book” button, a user avoids reentering flight preferences and instead reaches the travel provider’s site with the desired origin, destination, dates, and flights all preselected.

In contrast, organic search and paid advertising listings did not allow interactivity during our study period but instead linked to landing pages where a user had to reenter travel details.

- The Book button influenced which airline offers are acted upon. The comparisons made by consumers on GFS may be different from what they would find on an OTA where the incentive is to show all airline offers. The results would also vary versus what they might find on a Metasite (where advertising also plays a prominent role) and of course would be very different from what they would find if they searched only on an airline site;
- When relevance searchers switch from unpaid (organic) search results to paid results, they do so because they believe the paid results are more relevant than the GFS results, both of which they find on the first page of the search. The paid sites can be for an airline, OTA, Metasite or other search provider (like TripAdvisor).

The main metric for what the consumer sees is how much the sites are willing to pay to get on the first page of the search, not necessarily the best flight offers suited to the consumer.

- Edelman and Lai then go on to summarize the implications of their findings for public policy, suggesting that some consumers will be harmed because they will be diverted to search results that may be less complete than what they formerly relied upon while others will click on paid sites instead of unpaid ones resulting in higher distribution costs for everyone.

The following are Edelman and Lai's main conclusions:

- **First: search engines have significant influence over salience searchers:** *the layout and format of search results significantly influence the destinations these users visit. Control over search result page layout and format thus allows a search engine to influence whether salience searchers discover competing sites, and this power could be used to impede competitors' access to users.*

Among the proposed requirements recently put forward in the European Commission's investigation of Google for possible competition violations, the Commission proposed to require that Google more clearly label its own services as paid offerings (European Commission 2013). But our results suggest that this approach may be ineffective. For one, most salience searchers who select GFS already view them as paid offerings rather than organic search, suggesting that the label would not change the information available to them and thus would not change their click patterns. Furthermore, for these salience searchers, the prominence of a search result plays the strongest role in decisions about which listing to click, regardless of whether searchers have past experience visiting and purchasing at less prominently displayed options. Notably, these effects hold even for established firms with known brands.

- **Second: the substitution patterns of these relevance searchers explain why the addition of GFS causes an increase in clicks on paid listings:** *these users found the paid links more relevant than GFS and moved their clicks accordingly. Also, our analysis suggests that labeling search engine services more clearly as paid offerings may not lead relevance searchers back to the organic search channel; rather, it may divert more traffic to paid listings. While available data offers limited insight into the full welfare effects of such a labeling requirement, our results make clear that obscuring, reducing, or otherwise deemphasizing organic (unpaid) search listings brings direct cost increases to commercial sites, which must then pay for traffic they previously received from organic links without charge. These industry wide cost increases may be passed back to users through higher prices when firms jointly optimize their price-setting and advertising expenditures, and they could also deter new companies from entering the market.*
- **Third: our measurement establishes that the introduction of GFS into Google search results led to sizeable traffic volume changes for U.S.-based OTAs.** *We expect these effects to have an even larger impact on OTA marketing strategies in Europe, where travelers rely more heavily on Google and less on OTAs in their online search for flight tickets.*

- The features of GFS may change and consumers may adapt to the changing on-line environment. But the clear trend is to influence the sites where consumers shop and then influence their travel choices by making advertised options more prominent. Furthermore, airlines can shape choices available to consumers depending on where they shop. Given the prominence of Google in the overall search market, airline strategy will be to pay for prominence and full cooperation with GFS (the Book button) to divert consumers away from unbiased comparison shopping available via independent distribution outlets. As other researchers have shown, the outcome for consumers will be less optimal choices and higher prices;
- Luca et al (2015) discuss the implications of Google's entry into specialized search markets like travel using its dominance in the general search market. Luca et al suggest that Google degrades the quality of general search by selling advertising and displaying its own specialized search product (GFS), more prominently, making it more difficult to find unpaid or independent search results, even when those results may have better information. Degradation of results is relatively easy to identify. Google came to prominence as a general search site because its search engine was based on PageRank which works by counting the number and quality of links to a page to determine a rough estimate of how important the website is. The underlying assumption is that more important websites are likely to receive more links from other websites. Luca et al find that PageRank consistently rates Google's own specialized products lower than those of independent websites. This means that using Google's own search logic, its insertion of its specialized products degrades the value of search, and increases costs to consumers, leading them to make poorer choices – higher prices, less optimal products or both;
- Together the two articles (Edelman and Lai and Luca et al) suggest that Google's development of GFS results in diverting consumers away from unbiased comparison shopping provided by independent distribution channels. Ultimately, Google gains advertising revenues and airlines divert consumers to their own websites, where comparison shopping is not available. Consumers are the losers. As we discuss below, interrupting comparison shopping may also help facilitate coordination among carriers;
- There are at least two reasons why airlines would have an interest in interrupting comparison shopping:
 - First, by devaluing the information available via independent channels, airlines also devalue the benefits of comparison shopping. If a consumer cannot easily compare complete prices in a single venue, he or she is more likely to use airline sites, where the withheld information is available;
 - Second, airlines hope to charge higher fees by capturing passengers at their proprietary venues, where comparison shopping is not available.
- The lack of comparison shopping has a host of adverse consequences as outlined in a recent U.S. National Economic Council report²⁵ issued on hidden fees:
 - *First, when consumers are induced into paying more than they otherwise would for goods and services, the result can be a systematic transfer of wealth away from consumers to the firms who successfully hide their true prices. Empirical studies suggest that such pricing strategies may systematically make consumers pay more for goods and services, and put less effort into searching for lower prices;*
 - *Second, prices provide information that serve to move resources to their highest and best uses. It follows that when the information conveyed by prices is muddled or confused, it can undermine economic efficiency for entire categories of consumers;*
 - *Third, deceptive pricing may also inhibit the competitive process. Specifically, it may hurt the ability of a price-cutting competitor to take business away from a more expensive rival. The creation of consumer confusion and wariness around actual prices may make consumers disbelieve advertised prices, making it harder for the genuine price-cutter to attract consumers. Moreover, the higher-priced rival may use hidden fees to effectively shroud its comparatively higher prices. This may reduce real price competition;*

25. National Economic Council: The Competition Initiative and Hidden Fees (December 2016) https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/hiddenfeesreport_12282016.pdf

- *Fourth, unusual pricing practices may facilitate “follow-the-leader” pricing among competitors. The setting of “standard” add-on fees, which are in theory not part of the negotiated price, provides an ideal anchor for tacit coordination because they are typically set at the national level and fluctuate less frequently than the base prices themselves. As a result, for example, such fees make it easier for the airline industry to implement and sustain prices without an explicit agreement. In this example, the major airlines would likely find it easier to implement and sustain a “standard” change fee of \$250 as it may be easier to coordinate on that price than the prices for travel itself.*
- Seen in this light, airline attempts to interrupt comparison shopping may also inhibit competition and facilitate the coordination of airline prices.
- Their efforts may be reinforced by further consolidation and highly coordinated international code-sharing which makes:
- branding and promoting airline Supplier.com more economically attractive;
 - coordination among fewer independent competitors simpler;
 - enables new industry distribution standards enforceable;
 - direct connections to agents to disintermediate independent distribution channels easier.
- Merged and closely allied carriers can develop strategies to further weaken the independent channel by jointly threatening or actually withholding content to one or more independent channels.

Airlines may also impose fees on agents or consumers who choose to use independent channels instead of airline direct channels, which raises the cost to the consumer of comparative shopping. For example, Lufthansa engages in this practice.

In addition, Delta Airlines prohibits on-line travel agents from providing information to metasearch sites:

“No agent shall:

- a. provide access to, display or otherwise distribute, directly or indirectly, any of Carrier “Flight Data” to any other party, including without limitation any “Metasearch Operator;”;*
- b. receive any referral, web page click-through or link from any webpage of any Metasearch Operator in connection or associated with any search result on such webpage that is attributed to the Carrier product or service to any webpage used by agent, including, without limitation, any advertising link or other hyperlink; or*
- c. place or otherwise have any advertising link on any Metasearch Operator webpage in connection or associated with any search result on such webpage that is attributed to the Carrier product or service in such search result, in each case, without the prior written consent of the applicable Carrier or pursuant to a definitive written agreement in effect with the Carrier.*

In addition, each agent acknowledges and agrees that, as between the agent and the Carrier, the Carrier owns, controls and retains all right, title and interest in and to its Flight Data and all copyright, database and other intellectual property rights relating thereto. ²⁶

26. <https://pro.delta.com/content/agency/mx/en/policy-library/distribution-and-revenue-recovery/carrier-distribution-policy.html> (accessed 14 February 2017)

- An important objective of the airlines is strengthening their negotiating stance versus independent channels. This gives them more leeway to deny content (which reduces the value of comparison shopping and may cause agents to seek content from elsewhere outside of a comparison shopping framework) and/or impose other conditions on independent channels that threaten the viability of comparison shopping (imposing fees for content that exceed the ability to recover them);
- If the content provided to independent channels by consolidated carriers is devalued, the benefits of comparison shopping to consumers are also devalued and some consumers and agents may rely on other mechanisms to find and purchase tickets without a mechanism to easily compare and select their best travel option;
- In the longer term, new entrant carriers would also be disadvantaged if they do not have the option to easily access the worldwide agent networks outside of their home markets made possible by independent distribution channels;
- LCCs will also find it harder to attract business travelers via travel agents if consolidated carriers devalue comparison shopping via the independent distribution channel. For example, Ryanair signed an agreement to distribute via Travelport with the express intent to double its share of business travelers in two years.²⁷ While not all LCCs will opt to distribute via travel agents, preserving the opportunity to do so keeps in place a mechanism to quickly reach new customers efficiently.



27. <http://www.telegraph.co.uk/finance/newsbysector/transport/10690390/Ryanair-to-sell-flights-through-travel-agents-for-first-time-in-10-years.html>

// Evidence from the more consolidated U.S. market

- Regulators and independent researchers have provided evidence from the more consolidated U.S. market suggesting that further consolidation in Europe could be costly to consumers; this is consistent with earlier literature showing the importance of preserving independent competitors and new literature showing that it is often less expensive for incumbents to invest in deterrence than competing with a new entrant;
- For example, Ciliberto & Zhang find that the cost of deterrence is often less than the competitive cost if a new carrier enters a domestic U.S. market. This means carriers have an incentive to invest in deterrence which results in higher net profits than would occur with the entry of a new firm;
- In its complaint opposing the original American-US Airways merger, DOJ made clear its concerns that further consolidation would lead to higher prices and noticeable reductions in capacity in the industry (and that these were the expressed objectives of the future management of the merged carriers);

*“Increasing consolidation among large airlines has hurt passengers. The major airlines have copied each other in raising fares, imposing new fees on travelers, reducing or eliminating service on a number of city-pairs, and downgrading amenities.”*²⁸

- a. DOJ reviewed the likely behavior of actual and potential competitors to the dominant positions to be created by the merger and concluded no remedies could be designed that would be effective. The loss of an independent carrier (US Airways) would mean the loss of pricing initiatives (like Advantage Fare) that benefit consumers and would make it easier for remaining carriers to “cooperate rather than compete.”
- b. Other FSCs would be unlikely to expand if the newly merged carriers raised prices and reduced capacity, and in fact would be more likely to benefit from and participate in such conduct by coordinating with the merged firm (para 92):
 - “New entrants into a particular market face significant barriers to success including access to slots and gate facilities, the effects of corporate discount programs

offered by dominant incumbents, loyalty to existing frequent flyer programs, an unknown brand and the risk of aggressive responses to entry by the dominant incumbent carrier” (para 91);

- Other carriers such as Southwest and JetBlue do not have comparable or competing networks and “many passengers view them as a less preferable alternative to the legacy carriers” (para 93).
- While DOJ ultimately accepted a settlement allowing the American and US merger that involved the surrender of slots and gates at certain airports, it subsequently opened an on-going investigation of collusion among the Big 4 carriers (AA, DL, UA, WN) to maintain capacity discipline in order to keep prices high; this investigation provides a platform for DOJ to evaluate behavior across all of the large carriers instead of just AA and US;
- More recently, DOJ opposed the Alaska - Virgin America merger because of Alaska’s long-standing codeshare agreement with American and Virgin’s extensive overlap with American’s route network. DOJ feared that Virgin’s competition would be muted because the merged carrier (Alaska) would: “cooperate rather than compete with its larger partner, American. Specifically, Alaska (now merged with Virgin) may choose not to launch new service on routes served by American, or it may opt to compete less aggressively on the routes that both carriers serve, to avoid upsetting American and jeopardizing the partnership. Alaska may also decide to rely on the codeshare relationship in lieu of entering routes already served by American because doing so allows it to offer its customers the benefits of an expanded network without undertaking the risk and expense of offering its own competing service. As a result of these incentives, Alaska and American often behave more like partners than competitors;”²⁹

28. United States District Court for the District of Columbia; Case 1:13-cv-01236-CKK Document 73 Filed 09/05/13 paragraph 35

29. DOJ Complaint: United States of America vs. Alaska Air Group Inc. and Virgin America Inc. (December 6, 2016)

- DOJ only agreed to drop its opposition when Alaska agreed to roll back its codeshare with American by prohibiting any code-sharing on routes where Virgin competes or the merged carrier may compete with American;³⁰
- DOT's recent proposed rollback of the AA/ Qantas ATI feature and its imposition of steep remedies for approval of the DL/ Aeromexico ATI application suggest that U.S. regulators now recognize that imperfections in international markets make ATI less desirable even in open skies environments;
- In its Show Cause Order on the American/ Qantas matter (November 18, 2016), DOT found that the combined Qantas-American network would represent 60 per cent of all seats between the U.S. and Australia, while the pair would have the largest market share in about 200 city-pair markets. This would be sufficient for the alliance to “exert market power”, with the DOT noting the U.S.-Australasia market featured “long, thin markets that are isolated from other global traffic flows.” Further, there were few passengers connecting via intermediate points in third countries, which limited the potential for competing networks to “discipline” the proposed alliance, as well as limited flow within Australasia or to other countries beyond Australasia. In other words, network competition to the proposed combination was weak:

“In such circumstances, there is a high risk of competitive harm from approving and granting antitrust immunity.”³¹

- The DOT also questioned some of the claimed consumer benefits in Qantas and American's application that would result from having their anti-trust immunity approved, and indicated many of the benefits could be realized without ATI:

“For example, we tentatively find that, based upon information in the record, the proposed alliance is unlikely to grow capacity over the next five years faster than what the Department would expect based upon the historical growth rate.”

“Additionally, many public benefits from customer service coordination could be obtained through traditional arms-length cooperation such as code-sharing.”

- In the Delta/Aeromexico approval, DOT required divestiture of slots at JFK and Mexico City, limited the ATI approval to five years to allow DOT an opportunity to reevaluate the competitive environment in the future, and required removal of exclusivity clauses that could prevent interlining with third party carriers.³² With regard to slot divestitures, DOT required that they be made available to low cost carriers (U.S. or Mexican) and that they be operated between the U.S. and Mexico City. DOT makes reference to an earlier decision in which it outlined the benefits of redistributing slots to LCC's:

“Stated another way, our objective has not been to add as much new service by new entrants and limited incumbents as possible but rather to rely to the maximum extent on the introduction of a critical mass of new services, anticipating that those services will have an oversized effect on competition across a number of markets sufficient to address the potential competitive harm resulting from the transaction. The Department laid a foundation for this approach by emphasizing the effect of new entrant/LCC services on prices across a number of markets”³³

One of the important consequences of further consolidation is that even when there are cost savings realized via partnerships or mergers, they are less likely to be shared with consumers.

30. DOJ Statement on Alaska Air Virgin America Merger (December 6, 2016)

31. DOT Order to Show Cause DOT-OST-2015-0129 (November 18, 2016)

32. DOT Final Order Docket DOT-OST-2015-0070 (December 14, 2016)

33. As noted previously and in Exhibit 13 below, slot divestitures have been less successful in Europe where home country airlines have other advantages which make entry into dominated markets more difficult.

// Conclusions

- There is a link between the overall competitive environment in airline markets and the effectiveness of comparison shopping. Consolidation and alliances reduce the number of independent airline competitors which can lead to higher fares and restricted supply. These developments also strengthen airlines versus independent distribution channels;
 - Preserving comparison-shopping is particularly important now that the airline industry has consolidated through mergers and code-share alliances with ATI in the U.S. and/or joint venture features. While some consumers may benefit from custom offers made by the carriers, consumers are less likely to make informed choices without information on all alternatives available made possible by comparison shopping;
 - It is also important to note that major LCCs (easyJet and Ryanair) are increasing their distribution through GDSs as a means to become more competitive with full service carriers at major airports. To penetrate the markets in major city-pairs where FSCs are dominant, the LCCs will need to rely on the neutral comparison shopping facilities of a robust independent distribution channel to get access to the business travelers they must have to sustain their operations in such head to head competition.
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// Implications for DG-COMP and DG-MOVE policy going forward

DG-COMP should now consider a retrospective review of the consequences for consumers, both leisure and business travelers, of merger and joint venture approvals:

- policy makers should consider the adverse effects of current and further consolidation on both overlapping routes and across networks;
- policy makers should establish a framework for preserving and expanding competitive options for consumers (including the ability to comparison shop);
- policy makers should instigate periodic reviews of the state of competition as well.

It is important to note that the Commission has expressed its own concerns about the effectiveness of remedies to address competition problems created by mergers, which suggests a need to periodically review the state of competition. For example, *under the Merger Regulation, the Commission only has power to accept commitments that are deemed capable of rendering the concentration compatible with the common market so that they will prevent a significant impediment of effective competition. The commitments have to eliminate the competition concerns entirely and have to be comprehensive and effective from all points of view. Furthermore, commitments must be capable of being implemented effectively within a short period of time as the conditions of competition on the market will not be maintained until the commitments have been fulfilled:*

- *10. Structural commitments, in particular divestitures, proposed by the parties will meet these conditions only in so far as the Commission is able to conclude with the requisite degree of certainty that it will be possible to implement them and that it will be likely that the new commercial structures resulting from them will be sufficiently workable and lasting to ensure that the significant impediment to effective competition will not materialise.³⁴*

In this context it may be important to recognize that some mergers or advanced code-share partnerships cannot be adequately addressed via slot remedies with requisite certainty. Past efforts to preserve competition through remedies such as transferring slots have met with limited success.

As Fichert (undated manuscript) shows, in Europe it has proven to be difficult to design remedies to maintain competition in city-pair markets by requiring that slots be transferred to new competitors. Table 3 of his paper (shown in Exhibit 11) is reproduced below and shows limited cases where new entrants were successful. In some instances, existing competitors were able to acquire slots to expand existing service.

34. Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (2008)

// Exhibit 13: Effectiveness of Slot Remedies in EU Short Haul Markets)

Merger	No (successful) market entry	Market entry by newcomer	Existing competitor remained or expanded
Air France-KLM	AMS-Paris (CDG) AMS-Lyon AMS-Marseille AMS-Toulouse AMS-Bardeaux AMS-Venice AMS-Bologna	AMS-Milan** AMS-Rome**	
Lufthansa-Swiss	ZRH-Frankfurt* ZRH-Munich ZRH-Copenhagen ZRH-Stockholm ZRH-Warsaw	ZRH-Bucharest	ZRH-Berlin (TXL) ZRH-Dusseldorf ZRH-Hamburg ZRH-Hanover ZRH-Vienna
Lufthansa-Eurowings	VIE-Cologne*** VIE-Stuttgart*** <i>Stuttgart-Dresden</i>		
Lufthansa-SN Brussels	BRU-Frankfurt BRU-Munich BRU-Hamburg BRU-Zurich		
Iberia-Vueling-Clickair	Madrid-Naples Ibiza-Paris <i>Ibiza-Alicante</i> <i>Ibiza-Valencia</i> <i>Malaga-Bilbao</i> <i>Sevilla-Bilbao</i> <i>Sevilla-Ibiza</i> <i>Sevilla-Valencia</i>	<i>BCN-Malaga****</i> BCN-Venice	BCN-Athens BCN-Nice BCN-Rome <i>BCN-Granada</i> <i>BCN-Oviedo</i> <i>BCN-Santiago de C.(SCQ)</i> <i>BCN-Sevilla</i> Madrid-Venice
Lufthansa-Austria Airlines	VIE-Stuttgart VIE-Cologne***		VIE-Frankfurt VIE-Munich VIEBrussels

Source: Fichert

Data source: Airline's and airport's websites, EU merger decisions.

Domestic markets in italics.

* Operated for one flight period by Air Berlin (Summer 2006)

** Competitor at time of merger ceased operations, other airline (easyJet) enter the market.

*** Former competitor (Air Berlin) has ceased operation.

**** Furthermore, existing competitor continues operation.

DG-COMP should consider how to offset a dominant carrier's frequent flyer program to level the playing field:

When consumers are loyal to a carrier that dominates a hub, it can be particularly difficult for new or existing competitors to enter or expand.

Offsetting frequent flyer programs may be particularly important to counter some of the effects of consolidation and code-share agreements which raise the barriers to entry in the industry, especially in large population centers.

Offsetting the frequent flyer programs in Norway proved to be important in the success of new carriers as this muted the network advantages of dominant hub carriers (Lederman; Steen and Sorgard).

DG-COMP should consider evaluating the consequences for consumers of the increased power that airlines enjoy relative to:

Corporate purchasers of air travel and relative to independent distributors of air travel, such as travel agencies, metasearch sites, travel management companies and their GDS suppliers.

If carriers succeed in denying content to independent channels, comparative shopping will become less effective, thus imposing higher search costs on consumers, and reinforcing the carriers' objective to raise fares while reducing capacity.

DG-COMP and DG-MOVE should seek to preserve consumers' ability to find the travel options that best match their needs via comparison shopping:

Comparison shopping has become increasingly important as airline markets become less competitive due to consolidation via alliance and mergers. Key components to consider include:

- All carriers of substantial size should offer publicly available fares (as opposed to only "customized fares" for specific travelers) via the GDSs and travel agencies they have authorized to sell their tickets;
- Carriers should provide full information on fares and custom features (including ancillaries) in all distribution channels they choose to participate in to preserve the ability to comparison shop so that the all-in price of each option is not obscured;
- This recognizes that customization of offers can benefit consumers if they are well informed about the alternatives available to them;

- Carriers should not unjustly discriminate among distribution channels.
- These recommendations are consistent with recent shifts in the two-sided airline-GDS- travel agent/ travel management/metasearch market whereby carriers' relative bargaining position has been strengthened through consolidation and through direct access to consumers and agents, which threaten the business models of independent distribution platforms that are the primary source for comparison shopping for consumers.

DG-COMP may also consider whether Google's dominance in Internet search generally creates opportunities to degrade search information in the specialized travel search market:

Google dominance is resulting in harm to consumers and reinforcing the airline strategy to deny consumers access to unbiased comparison shopping.

DG-MOVE may also consider enforcing the CRS Code of Conduct to implement these recommendations:

DG-MOVE should if and where needed, propose amendments to the Code that will empower it to take the required actions. For its part, DG-MOVE should, at a minimum, require undertakings from airline alliance participants that they will agree to these necessary safeguards for consumers as a condition for allowing these further aggregations of airline market power to continue.

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