

## Policy Review Section

Edited by J. MAWSON

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In this issue of the *Policy Review Section*, Brian Graham of the University of Ulster reviews the various attempts by the European Union to promote a more competitive environment in the airline industry and considers the regional implications. In the second article, David Hitchens of Queen's University Belfast reviews the evidence of the impact of European Union and other environmental legislation on the competitive position of firms, industrial sectors and regions. Finally, Scarlett Palmer and Colin Lizieri of the University of Reading consider the impact of European environmental legislation on land and property development.

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### **AIR TRANSPORT LIBERALIZATION IN THE EUROPEAN UNION: AN ASSESSMENT**

#### *Introduction*

The liberalization of the scheduled air transport industry within the 17 states of the European Economic Area (EEA) was completed on 1 April 1997. Implemented in three stages or packages of reform since 1988, European Commission (EC) aviation policy is directed at creating a more competitive European airline business that benefits consumers and industry alike. Prior to assessing the spatial implications of this policy and commenting on its interaction with EC regional initiatives, some brief comments are required on the particular characteristics of the European Union's (EU) air transport system. Essentially, the basic structure prior to liberalization comprised a succession of discrete national networks operated by the major European airlines, each combining international and domestic services in a patterning that reflected – and still largely continues to do so – the unique historical circumstances which conditioned the evolution of the systems. Consequently, each complex, operating through particular hub airports, which (excepting Germany) inevitably serve the national capitals, possesses its own particular geographic strengths and weaknesses. To a considerable extent, intra-European scheduled air traffic is viewed as hub-feed for the intercontinental components of these networks, without exception the most profitable segment of any large European airline's system. In contrast, most intra-European city-pairs yield – at best – minimal profits or incur losses. Such routes accounted for 70% of international passengers flown by carriers belonging to the Association of European Airlines (AEA) in 1995, but only 40% of revenues (AEA, 1996). In addition, most EU Member States retain their own national domestic networks comprising

trunk routes that connect capital cities with other major national business centres, together with an often dense array of linkages between secondary points, albeit served at lower frequency and by smaller aircraft.

The nationally-specific genesis of the individual components of Europe's air transport system acts as a primary constraint on the effectiveness of its liberalization. In effect, no incumbent carrier of any substance can replicate another's route structure; no market entrant can emulate the network of a major incumbent. One inevitable legacy of these processes is the concentration of a large number of carriers and hub airports in a relatively confined geographical area. The 17 EEA states support 15 national airlines, sometimes referred to as 'flag-carriers'. The tripartite Scandinavian Airline System (SAS), owned jointly by Denmark, Norway and Sweden, remains the only exception to the rule that each country possesses a dominant carrier. Lufthansa, British Airways (BA) and *Groupe Air France*, ranked respectively 4, 6 and 10 in the world, were the largest three European carriers (by sales) in 1995 (*Airline Business*, September 1996). The most important European airports are concentrated in a Y-shaped axis, defined by Manchester, Stockholm and Rome; Madrid and Palma de Mallorca are the only significant outliers within this distribution (Table 1). Almost without exception, these facilities suffer from capacity limitations and existing high levels of runway and terminal congestion (CIVIL AVIATION AUTHORITY (CAA), 1993).

#### *The policy of gradual liberalization*

While the pre-emptory implementation of US airline deregulation in 1978 inaugurated a radical transformation into a single domestic aviation market, the fragmented and primarily international nature of the

Table 1. Top European airports 1995 (terminal passengers handled – millions)

1 London Heathrow	54.1	9 Dusseldorf	15.0
2 Frankfurt	37.5	10 Zurich	14.9
3 Paris Charles de Gaulle	28.0	11 Munich	14.6
4 Paris Orly	26.6	12 Palma de Mallorca	14.6
5 Amsterdam	24.9	13 Manchester	14.5
6 London Gatwick	22.4	14 Copenhagen	13.8
7 Rome	20.7	15 Stockholm Arlanda	13.2
8 Madrid	19.7		

European air transport industry demanded a more circumspect approach. By the early 1980s, European airlines were incurring operating costs substantially in excess of those in the United States. Scheduled fares were higher, especially where there was no competition (the norm), while capacity, fares and frequencies were controlled through a plethora of inter-governmental bilateral agreements. The policy of gradual liberalization was designed to effect a relatively long term modification of this situation, part and parcel of the reconfiguration of national networks into the infrastructure of a more competitive and flexible Single European Market (SEM). The aviation policy is also specifically required to take account of overriding EU principles of cohesion between central and peripheral regions (EC, 1994). In addition, carriers have had to be restructured to operate, not as publicly-owned instruments of state policies, but as commercial and – eventually – privatized companies.

The phased introduction of liberalization was realized through three policy packages, progressively applicable from 1 January 1988, 1 November 1990 and 1 January 1993; the latter – by far the most fundamental – was implemented over a four-year period (Table 2). The aviation policy applies only to services within the EEA, the EC having yet to establish its authority over

Table 2. The three EC air transport liberalization packages

1 Implemented from 1 January 1988	Allowed multiple designation, fifth-freedom rights, automatic approval of discount fares; double disapproval rule applied to full fares
2 Implemented from 1 November 1990	Second Package.
3 Implemented from 1 January 1993 – final implementation 1 April 1997	Permits: <ul style="list-style-type: none"> <li>• free pricing on all fares</li> <li>• full access to all routes including cabotage</li> <li>• abandonment of distinction between charter and scheduled carriers</li> <li>• protection for routes designated as public service obligations</li> <li>• EC retention of right to intervene against fares, predatory pricing and seat dumping</li> </ul>

Source: GRAHAM, 1995.

Member States in negotiating air service agreements with other governments. The First and Second Packages were largely concerned with provisions that permitted the liberalization of intra-European Community bilateral agreements, a strategy pursued most vigorously by the British, Dutch and Irish governments. The results served to demonstrate that consumer gains – price competition, increased frequency, more city and airport pairs – were realized most readily on those city or airport pairs served by carriers such as British Midland Airways and Ireland's Ryanair, which were effectively promoted as state-sanctioned competitors to the incumbent flag-carriers.

The Third Package, however, was very much more radical. In effect, its four-year period of transition has transformed national carriers into Community airlines. Effective 1 April 1997, all EEA carriers have had open access to virtually all routes within the Community. This includes full cabotage – the right to operate domestic services, irrespective of the airline's home state – although the interim provisions in force between 1993–97 attracted little interest. The only exceptions are some public service routes, which remain protected from competition (although awarded through competitive tendering). In addition, the initial terms of the Third Package abolished the distinction between scheduled and charter carriers, permitting the latter to re-designate their flights as scheduled if they so wish. The EC retains regulatory powers including the right to intervene in: tariff structures if these are judged excessive; cases of predation; issues of safety, environment and other general manifestations of EU law, particularly that on anti-competitive behaviour. However, as the Commission has proved unable to make a final decision on any complaint of abusive or predatory behaviour in less than two years, the effectiveness of these powers has been substantially undermined (*Airline Business*, May 1996).

In summary, three key issues can be identified in assessing the spatial repercussions of EU aviation policy:

- the tensions created by continuing state ownership and subsidies to 'flag-carriers'
- the impact of the Third Package on the provision of airline services within Europe
- the strategies adopted by the major incumbent carriers to control the liberalized market to their own advantage.

#### *State subsidies to and ownership of 'flag-carriers'*

The continued injection of state aid into government-owned airlines remains a vexed and public issue, but also one that has important spatial repercussions because of its capacity to inhibit competition. Of the major European carriers, only BA is as yet fully privatized. In 1993, the EC appointed a *Comité des Sages* to investigate methods of enhancing the competitiveness

Table 3. *Effects of the Third Package on competition; Community routes (airport to airport)*

Routes	January 1992		January 1993		January 1994		January 1995		January 1996	
	No.	%								
Total	510	–	488	–	482	–	522	–	518	–
Monopoly	283	56	296	61	318	66	342	66	329	64
2 carriers	208	40	182	37	150	31	154	29	158	30
>2 carriers	19	4	10	2	14	3	26	5	31	6

Source: EC, 1996.

of EU air transport. In identifying continuing state ownership and subsidies as a crucial factor impeding and distorting the implementation of a more competitive aviation environment, the *Comité* advocated a 'one-time/last-time' policy of aid packages for restructuring. Since then, a number of flag-carriers, including Air France, Aer Lingus, Iberia, Olympic and TAP-Air Portugal, have received substantial infusions of state aid (albeit with substantial conditions attached), while Alitalia's case was still being heard in 1997.

Although much of the debate on this issue is intensely hypocritical, not least on the part of BA, which was financially restructured at public expense prior to its privatization in 1987, the continued prevalence of state intervention ensures that the concept of a 'level playing field' in the EU airline industry remains an unattainable ideal. Furthermore, all flag-carriers – albeit now Community airlines – retain two major and permanent hidden subsidies:

- the historical advantage of an extensive and specific route network, combined with market dominance of core hub airports
- the continuing subsidy of bilateral agreements negotiated with extra-EU governments.

Thus, the real 'victims' of state aid are not other flag-carriers, but the entrant, private-sector airlines on which effective competition primarily depends (CAA, 1995). Although few of these, in turn, have not benefited in some way from government protection and encouragement, subsidies – and other manifestations of Member State policies, past and present – continue to underpin incumbency and the interests of the major airlines. In turn, that accentuates the dominance of their operations and networks, concentrated at the principal, and often capacity-limited, hub airports.

#### *The impact of the Third Package on intra-European airline services*

Any assessment of the impact of competition immediately raises the question – who should be the primary beneficiaries? The EC – and previously some national regulators such as the UK's CAA – have stressed consumer primacy in this regard. The major airlines, however, inevitably viewing their own interests (or

those of their shareholders) as paramount, favour tactics that maximize returns from a more competitive environment while necessarily seeking to control or suppress competition. Several studies have shown that consumers do realize advantages from enhanced competition, but only when an airport or (perhaps) city pairing is served by at least *three* carriers engaged in head-to-head competition (BRITISH MIDLAND AIRWAYS, 1996; CAA, 1993, 1995). These benefits include lower and more flexible fares, improved frequencies, enhanced service levels and more extensive connection possibilities. The same analyses suggest that in the event of a route being served by only two carriers, these will operate as a duopoly. In 1996, however, of 520 airport pairings in the EU, only 31 (6%) were served by more than two airlines (although these did incorporate the densest routes). Almost two-thirds of airport-pairings (64%) were operated as monopolies, although this total includes a large number of low-density routes unlikely to support competition (EC, 1996). Nevertheless, as Table 3 indicates, the gradual implementation of the Third Package since 1993 has had very little aggregate impact on the extent of competition. Where this does occur, there have been tariff reductions, especially on economy class tickets, but elsewhere fares have risen to an extent adjudged sufficiently excessive for the EC to threaten regulatory intervention (EC, 1996, pp. ii–iii). It is inevitable that consumer benefits related to fares are largely confined to the densest airport and city pairs.

None the less, despite these aggregate trends, the period since 1993 has been characterized by a wave of market entry, mostly by small airlines or charter carriers converting their products into scheduled services. The EC, 1996, estimates that 80 new airlines began services between 1993–96 but has also identified 60 companies (not necessarily the same) which failed during the same period. Entrants into the scheduled European passenger air transport market can follow one of three strategies:

- By far the most difficult is to create a full-service operation that may compete head-to-head with the majors on airport or city pairings. The pre-eminent examples are London Heathrow-based British Midland (40% owned by SAS) and the independent Norwegian carrier, Braathens SAFE, which

competes with SAS on the Oslo–Copenhagen–Stockholm triangle. Other carriers have established credible operations in niche markets created by monopolizing subsidiary airports, two examples being Maersk Air at Billund and the KLM subsidiary, Air UK, at London Stansted.

- Some carriers have followed the aggressive US-style low cost/‘low-no frills’ concept, originally pioneered by Southwest Airlines, and now adopted by a plethora of US market entrants. Carriers such as Ryanair, Virgin Express at Brussels and EasyJet at Luton may compete with major airlines on interstate city pairings but often use lesser airports close to major cities. For example, Ryanair depends heavily on Stansted (for London), while also serving lightly-used airports such as Prestwick (for Glasgow), Bournemouth (for South East England) and Charleroi (for Brussels). Such airlines are essentially low-fare, point-to-point operators, dependent on low costs and high capacity.
- The easiest and by far most prolific mode of market entry is to identify a market niche serving a particular airport and/or region. It is in this particular regard that the liberalized aviation regime has had a considerable impact on accessibility patterns between peripheries and cores, both nationally and throughout the EEA.

European Union Structural and Cohesion Funds have been invested in transport infrastructure with the aim of reducing accessibility disparities within the Community, the same priority being fundamental to the thinking behind the Trans-European Networks (TENs). Although economic investment can produce enhanced peripheral accessibility, the connection with wider economic development is, however, far from clear. Moreover, the TENs are also accentuating the accessibility of the core axis of the EU and its adjacent cities. Although it can be argued that, in allocating liberalization a higher priority than cohesion, the EC’s aviation policy is contributing to this process, it remains the case that significant changes in the provision of domestic and regional air transport are emerging as one of the more positive repercussions of the liberalized aviation regime. It had already been demonstrated in the UK, prior to 1993, that a liberalized environment, which protected competition in the interests of consumers, could effect considerable positive changes in air transport provision to regional destinations (GRAHAM, 1993). Since the implementation of the Third Package, domestic services in France, Germany, Spain, Scandinavia and Italy have all become much more competitive due to enhanced opportunities for market entry. In Spain, for example, the leisure carriers, Spanair and Air Europa, have entered the domestic market in competition with the Iberia group, while French domestic trunk routes can be viciously contested by *Groupe Air France*, AOM French Airlines and the

(soon-to-be-merged) BA subsidiaries, Air Liberté and TAT European Airlines. Consumers are realizing tariff and frequency benefits, although competitive conditions remain highly volatile in conditions of speculative market entry and equally rapid exit. Again, intensive domestic competition is generally restricted to the few city pairs that generate sufficient traffic to support several carriers.

However, liberalization has also provided opportunities for regional airlines, most market entrants – and startups – falling into this category. The European Regions Airline Association (ERA) adopts functional criteria to define such carriers, which link regional cities together – the so-called hub-bypass routes – and/or, more commonly, connect them to core hubs. As such, regional airlines require spatially-defined niche markets, preferably sheltered from competition by geography and/or demand. They account for the majority of EU city pair air services but their routes, largely aimed at high-yield business passengers, are generally monopolies, characterized by high fares, the higher costs of operating smaller aircraft (typically between 19–70 seats) and poor load factors averaging little more than 50%. However, business markets benefit from enhanced regional accessibility, albeit at a cost. The more extensive provision of hub-bypass routes between regional cities, whether within a state or the EU as a whole, is constrained by a lack of demand and the intense competition facing regional airlines from terrestrial transport modes, not only cars but also the high-speed trains (HSTs), favoured in the TENs for routes of less than 500 km.

Regional carriers are increasingly investing in regional jets, which offer competitive times over short distances, and also enable the exploitation of city pair routes too long to make turbo-prop aircraft acceptable in a largely business oriented market. Only the most important regional cities, however, such as Nice or Barcelona, generate sufficient traffic to sustain hub-bypass routes to a substantial number of other non-capital cities. Otherwise, even a substantial regional city might support only a handful of such routes, often served by aircraft of less than 30 seats. One of the most notable initiatives has been by the French carrier, Regional Airlines, in connecting Bordeaux, Nantes and several lesser western French cities to a variety of destinations across Clermont-Ferrand, which acts as a mini-hub where passengers change aircraft. The thin flows from several cities can thus be consolidated sufficiently to justify, for example, onward service to Basle, Geneva, Turin or Milan.

In adopting this hubbing tactic, Regional Airlines is essentially emulating, if at the micro-scale, the most significant network repercussion of liberalized or deregulated air transport environments. This is the rapid reconfiguration of airline route networks from radial to hub-and-spoke systems, a supplier-led strategy which maximizes the on-line connections available to

an airline through its central operating base (or bases) (GRAHAM, 1995, pp. 110–16). In the European context, it follows, therefore, that the most valuable routes offered by regional carriers are those serving hub airports because these offer the largest array of connections. Many regionals have thus opted for business niches in which they operate as sub-contractors or subsidiaries of the largest airlines to provide low-density capillary connections to hubs. The most recent development, pioneered by BA, is franchising in which lower-cost companies are contracted to fly branded services marketed through the major carrier. Some of the larger regionals, such as Air Littoral at Montpellier and Nice, and Jersey European (confusingly at Belfast), combine such operations with their own geographically specific networks but, increasingly, the regionals are becoming strategic tools of the major carriers. This helps explain why an extensive study by the CAA, 1995, concluded that, despite quite extensive evidence of market entry, there was also no sustained competitive challenge to the largest European airlines.

#### *Strategies of incumbency*

In terms of assessing the balance of advantage accruing from the enhanced capillary air connections between regional cities and major hubs, two enduring imponderables remain. First, although regional airports are often justified as important economic assets, especially in attracting inward investment, the evidence to support this is less than compulsive, partly because it is very difficult to measure (CAVES, 1994). Second, the problem with a hub-and-spoke system is that the accessibility advantages accrue most markedly to the hub. While peripheral access is restricted to one or two core cities, any hub can access many peripheral places. Therefore, it appears inescapable that the principal spatial repercussions of EU air transport liberalization will be to accentuate the already extensive dominance of hub cities and the major airlines. Not only are the major airports congested – an impenetrable barrier to market entry – but virtually all are dominated by a single airline. Transfer traffic to long-haul networks is critical to these carriers; 45% of passengers at Frankfurt are transferring flights, compared with 40% at Amsterdam and 30% at London Heathrow, which is the most important intercontinental hub. It is very difficult for even important second-tier cities or airports – London Gatwick, Munich, Stuttgart, Lyon, Barcelona, Manchester – to sustain credible long-haul networks unless, as with Gatwick and Munich, they are selected as secondary hubs by major carriers forced by congestion to diversify their long-haul operations.

Effectively, liberalization has allowed the major carriers in the core EU states to restructure their national networks into trans-European feed systems to their hubs, often utilizing their own lower-cost subsidiaries, such as KLM CityHopper and Lufthansa CityLine,

regional carriers or franchises. This trend is being accentuated by the planning for the TENs, which designates the most important airports as high-speed inter-modal interchanges served by HSTs. Major non-capital cities such as Lyon, Nice and Barcelona – already well-connected – are thus increasingly more effectively linked, perhaps by several modes, to a succession of long-haul network hubs where hub-feed can also be combined with point-to-point traffic to justify improved schedules. In addition to Paris, Nice, for example, is currently connected to no less than 11 other cities offering access to long-haul air services. In almost every case the link is provided either by the hub's dominant airline or a subsidiary. Some cities can support services to several capital cities outside their own countries, although the most important in the EU context – Brussels – may be an exception. Many, however, remain dependent on the primary link to the national hub for any connecting services. This is particularly true in southern Europe where weaker economies and the continued hegemony of national carriers combine to limit the demand for air transport.

There are two ways of interpreting the significance of such developments. The EC prefers to view them as evidence of another form of competition – that between overlapping networks across the entire EU – and this may indeed prove to be the most profound outcome of the implementation of the Single Aviation Market. However, hub dominance is also a large incumbent's most effective strategy in a liberalized market because, especially when combined with airport congestion, it offers the real possibility of pre-empting, or at least controlling, competition. Moreover, it is a strategy increasingly linked to another – the airline tactical alliance. Through acquisition, negotiation and the increasingly widespread use of franchising, almost all the most powerful European carriers have constructed intra-continental coalitions which, in turn, form part of wider global agreements. There are very few small wholly independent airlines in the EU and most entrants soon enter into agreements with the majors. The twin-track strategy of hub dominance and alliance is being used to establish comprehensive networks in Europe, based around multiple hubs, each with its own specific, or potential, geographic focus (Table 4). While the EC has evinced concern about domination of market area, as distinct from routes, it has done little to prevent such deals. Potentially the most anti-competitive example is the Lufthansa–SAS based Star Alliance which dominates central and northern Europe. In each case, the major European carrier, or carriers, is linked to an array of smaller airlines which provide the hub(s) with feed and global partners.

#### *Conclusions*

On balance, liberalization of the EU airline industry appears to be producing a spatial pattern that is

Table 4. Some major EU airline alliances, 1997

European airline(s)	Principal European subsidiaries or partners	Principal hubs	Major global partners
British Airways	TAT Air Liberté Deutsche BA BA Regional 7 BA Express franchisees	Heathrow Gatwick Manchester Birmingham	Qantas American (proposed) Canadian International
Lufthansa/SAS (Star Alliance)	Lufthansa CityLine SAS Commuter British Midland Spanair Condor Luxair Icelandair	Frankfurt Copenhagen Stockholm Arlanda Dusseldorf Munich	United Thai International Air Canada Varig
Swissair/Sabena	Crossair Delta Air Transport Austrian Tyrolean Airways Lauda Air	Brussels Zurich Vienna	Delta Singapore Airlines
KLM	KLM CityHopper Air UK Transavia Martinair Holland	Amsterdam Stansted	Northwest Kenya AW

Source: *Airline Business*, June/July 1996.

tending towards concentration. To a considerable extent, this reflects less the failure of the legislation, as one further manifestation of global concentration through which powerful airline alliances are constructing geographically-specific networks focused on particular key hubs. The EC's policy is inevitably constrained by these processes and while liberalization has evinced some consumer gains from a more competitive environment, it has also given the major carriers the opportunity to capitalize on their already impressive array of advantages.

In the same somewhat tangential fashion that some

consumers have realized benefits from the liberalized aviation environment, the accessibility of peripheral regions has been enhanced by the market opportunities now open to smaller regional airlines. The most effective of these do not, however, link region-to-region but connect region to core. As is also the case with HSTs, these accessibility gains are not uniform but accrue most markedly to those cities and regions served by an array of connections to competing hubs. Thus, air transport liberalization is enhancing accessibility to and within the peripheral regions, but it is also clear that the principal benefits are accruing to the already well-served European core and its major urban agglomerations where the hub airports are located.

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**Acknowledgement** – I am most grateful to the Nuffield Foundation for its support of the research work to which this article relates. My thanks are also due to Simon Tudge of the European Regions Airline Association.

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