The international airline industry: globalization, regulation and strategic alliances

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International air passenger traffic has grown rapidly in recent years. This paper hypothesizes that while economies of scale and scope are inducing global consolidation of the international airline industry, it is the ongoing reform of the imperfectly competitive, regulatory environment and the fledgling international strategic alliances recently negotiated by various carriers that will ultimately determine the fate of the globalization process. The most competitive air carriers will emerge in countries that most successfully manage the transition from the restrictive bilateral system to 'open skies' multilateralism.

Keywords: international airline industry, globalization, bilateral, multilateral, regulation, strategic alliances

The globalization of manufacturing production activities and producer services has recently received a considerable amount of attention in the literature partly because an increasing amount of inter-firm collaboration is taking place on an international scale. The international airline industry is no exception to this trend. International air passenger traffic has grown rapidly in recent years, and it is projected by the US Federal Aviation Administration that international revenue passenger miles (RPM) will substantially outpace domestic RPMs up to the year 2003 (Standard and Poor, 1993). The expansion of international route networks has, thus, become an important strategic objective of the largest carriers, even though the bilateral air service agreements that traditionally regulate international air transport services frequently impinge on free-market forces by imposing a wide range of restrictions on where and how major carriers operate in the international arena.

For these and other reasons, some argue that the logic of international airline route networks cannot be understood fully without also examining issues of international trade, governmental policy and competitive strategy (Pustay, 1993; O'Sullivan, 1980). The purpose of this paper is to build on such notions by articulating the underlying processes governing the geography of international route networks based on an analysis of international trade theory, the regulatory framework governing air transport, and the various strategic alliances recently negotiated between airlines. This article argues that while economies of scope and scale are inducing the airline industry to consolidate and establish global networks, it is the ongoing reform of the imperfectly competitive, regulatory environment and the fledgling international strategic alliances recently negotiated by various carriers that will ultimately determine the fate of the globalization process. This paper demonstrates that the key aviation powers of the future will be those countries that most successfully manage the transition from state-owned carriers and restrictive bilateral agreements to an environment dominated by both multi-country strategic alliance route networks and multilateral solutions to air service agreements. It is also argued that these multilateral and multinational arrangements may be regionalized at first, as equivalent-sized markets negotiate various route rights. As such innovations diffuse spatially, the most efficient air transport systems to emerge first from this transition will achieve a competitive advantage in the global economy in terms of the ability to move people, goods and services. An underlying theme throughout the paper is the notion of market equivalence. Bilateral systems are viewed as increasingly redundant since they frequently cannot accommodate a fair and equal exchange of aviation rights, especially between countries with substantially different domestic markets.

Particular attention is also paid to the compromising forces that act upon governments and air carriers when attempting to establish advantageous positions in the imperfectly competitive marketplaces that currently characterize much of the international airline industry. This study takes a broad geographic perspective by focusing on the largest city-pair markets from around the world, and therefore explores the varied regional approaches to the
development of both appropriate regulatory environments and global route networks. Particular attention is paid to the corporate strategies of British Airways, Singapore Airlines and Spain's Iberia Airlines as examples of carriers that have developed strategic alliances under radically different geographic circumstances and corporate contexts. All three airlines have developed innovative route networks that essentially bypass the traditional bilateral system, the difference being that, during the 1990s, British Airways and Singapore Airlines have reported some of the highest profit margins of any international air carrier, while Iberia has reported some of the largest corporate losses.

**International trade theory and contestability**

The conceptual underpinnings of the logic for international airline route networks are closely connected to international trade patterns and strategic industrial policies between nations because international air passenger movements involve the sovereign air space of at least two different nations. Therefore, any theoretical understanding of the geographic dimensions of the international airline industry must first start with international trade theory and the role of the nation-state(s) in terms of both the regulatory framework (which can pose barriers through restrictions on access to international air routes) and the competitive strategic advantage of the airline industry by country. I shall return to the role of the nation-state vis-à-vis the regulatory framework and competitive advantage in the following sections of this paper.

Conventional theories of international trade based on the notion of comparative advantage (Ohlin, 1933) argue that all nations differ in the factor endowments that form the basic inputs for production: land, labor, natural resources and capital. Nations can be expected to gain factor-based comparative advantage by producing goods and establishing industries which capitalize on the factors that they possess in abundance. In the context of air transport, the United States possesses a significant comparative advantage because of the country's geographic size and population. It is difficult for the smaller nations of Europe or Asia to provide a domestic on-line feeder market in air transport to support the operations of the national flag carrier that is equivalent to that of the United States. In terms of international trade and strategic industrial policy this becomes important, since the economic equivalent of access to the internal US market would involve, for example, comparable access for US carriers in the intra-European market. We shall return to this fundamental point later.

While the underlying comparative advantage of countries has played a role in shaping patterns of international trade, it is becoming increasingly obvious that the assumptions underlying comparative advantage theory (such as near perfectly competitive conditions) may not sufficiently explain all forms of international trade. One of the leading advocates for a radical reformulation of international trade theory has been Krugman (1986). Krugman (1986, p. 9) argues that "a good deal of trade now seems to arise because of the advantages of large scale production, the advantages of cumulative experience, and transitional advantages resulting from innovation", especially in industries characterized by a small number of suppliers. The fundamental premise is that comparative advantage and neoclassical economics play less of a role in accounting for markets where companies 'face a few identifiable rivals, they have some direct ability to affect prices, and they make strategic moves designed to affect their rivals' actions' (Krugman, 1986, p. 9).

Much of this characterizes the current state of the international airline industry, and it is certainly difficult to view airline markets as anything like perfectly competitive in the orthodox sense. Rather, the world airline industry can be characterized as being part of an imperfectly competitive market where an oligopolistic industrial structure, restrictive bilateral cartels, protectionist governmental policies, limited international traffic rights, price collusion, economics of scope through hub networks, and various other barriers to entry all act to limit the number of competitors. Much of this has little to do with the factor endowments of comparative advantage.

To meet this problem and to provide an intellectual justification for airline deregulation, neoclassical theorists put forth the theory of contestability (Baumol et al. 1982; Bailey and Baumol, 1984; Baumol and Willig, 1986). Contestable conditions were theorized to arise not simply through the existence of classical perfect competition but from the potential threat of competition. Deregulated airline markets were believed to be contestable, and thus easy to enter, because aircraft were mobile at relatively low cost — the 'capital on wings' rationalization. Consequently, an incumbent air carrier (even if a monopolist) would not charge a high price on any given route because this might entice a new entrant onto the route. The new entrant might offer lower prices and divert traffic away from the incumbent. Therefore, contestability theorists believed that city-pair markets would remain competitive simply because 'there exist firms not currently in a market that might conceivably enter it' (Wilkins, 1984, p. 424).

Such a conceptualization fails to address the industry as a whole because it ignores the fact that runways, airport terminals, air traffic control centers and governmental aviation policy are less able to respond dynamically to the changing conditions of the marketplace. Even in deregulated air transport systems such as the USA, the barriers to entry are
very real and substantial. For example, the economies of scope and scale generated by extensive airport
hubbing complexes seem to have conferred upon the
dominant US carriers a sustainable competitive
advantage and a geographic monopoly power
(Pustay, 1993) (eg a lack of airport slots and gates
for new entrants).

While neoclassical international trade theorists
continue to argue that free markets are the most
efficient way of exploiting comparative advantage,
Oum et al (1993) question the conventional wisdom
provided by comparative advantage, as it relates to
the international airline industry. They counter that
an interventionist industrial policy may have benefi-
cial strategic effects for the airline industry. For
some countries with a limited domestic market (eg
Canada), a government-led policy of airline con-
solidation may be appropriate since although this
may diminish competitive forces in the domestic
market, it may also increase the likelihood of the
flag-carrier serving as a senior partner in any
emerging global alliance network of major airlines.
The underlying logic is that a short-run profit
maximization policy of free-market competition may
be less valuable in the long run to those nation-states
with small domestic aviation markets if this translates
into two or more smaller carriers serving as junior
partners in a global feeder network.

From a strategic public policy perspective, it is
clear that geography confers certain competitive
advantages to those countries with an abundance of
land and substantial domestic aviation markets. Hub
airports in these countries can receive the necessary
hub feed from ‘behind’ the gateway which can
sustain competitive long-haul international routes.
Given the apparent inevitability of the globalization
process, the critical policy question remains how to
resolve the issue of market equivalence when nation-
ally based aviation markets vary so dramatically in
size; and what regulatory and industrial structures
should nation-states be encouraging in terms of the
long-run welfare of its citizens? How these issues are
being resolved requires an understanding of the
evolving regulatory framework that acts on the
international airline industry.

The evolving regulatory framework for
international airlines

Historical context
As firms increasingly compete based on truly global
strategies, some have begun to assume a diminished
role for nations. However, nation-states matter
because national differences can provide a competi-
tive advantage (Porter, 1990) and the actions of
sovereign governmental policy can affect the geo-
graphic movement of goods and people (Krugman,
1991). Never is this more the case than in inter-
national air transport, which some have argued is
‘one of the most highly regulated and nationally con-
trolled industries throughout the world’ (Wheatcroft,
1990, p. 353). Much of this regulatory legacy can be
traced back to the 1919 Paris Convention which
established that nation-states have sovereign rights
to the air-space above their territory (in large part,
for national security reasons). Such an action elev-
ated airline traffic to the level of a national resource
that government should protect in the interests of
national welfare. As a result, the regulation of
international air transport developed under a series
of ad hoc bilateral agreements between different
pairs of countries.

One of the more influential bilateral agreements
was that signed between the United States and the
United Kingdom in 1946. It established fifth-
freedom rights (the right to pick up traffic in other
countries located between the two signatory states),
limited control of flight frequencies and capacity,
and established the International Air Transportation
Association (IATA) as the primary agency through
which fares were set. While the US–UK bilateral
served as a precedent for other liberalized air
practices, most bilateral severely constrained the
range of cities served on international routes and
controlled the output or production of each airline
through various capacity controls (including inter-
airline pooling or royalty agreements). For example,
in 1982 the European Civil Aviation Conference
estimated that 75–85% of intra-European scheduled
flights were performed under pooling agreements
Most pooling agreements tend to occur on duopolistic
routes where both carriers agree to share
revenues, usually on a 50–50 basis. These sorts of
arrangements have direct anti-competitive effects by
strongly discouraging airlines from offering low fares
and allowing carriers to, in effect, extract monopoly
profits. In the United States, anti-trust legislation
does not allow air carriers to arrange such pools, but
the overall effect in many regions of the world is
route networks and air fares that are geographically
‘distorted’ by the protectionist policies of particular
nation-states and specific air carriers. The net effect
of such agreements is a competitive environment
that is anything but perfect.

The US ‘open skies’ initiative
In response to these restrictions, the United States
attempted to initiate a pro-competitive, pro-
consumer agenda beginning with the Carter adminis-
tration in the late 1970s. In 1978, the United States
Civil Aeronautics Board (CAB) issued an order
requiring IATA to demonstrate why the CAB
should not revoke IATA-based tariff agreements (ie
the so-called IATA ‘Show Cause’ order) which up to
this point were exempt from anti-trust legislation.
The Show Cause order resulted in a European
multilateral compromise (Kasper, 1988) based on
the establishment of double-disapproval pricing
zones in the North Atlantic provided the CAB

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renewed the anti-trust immunity of IATA. The introduction of double-disapproval pricing (ie a tariff can only be refused if both governments reject it) allowed more liberal bilateral pricing policies to be introduced on North Atlantic routes although it should be noted that more traditional agreements proliferated in the rest of the world (ie either government on its own could block any given proposed tariff).

An additional dimension of the United States 'open skies' international aviation policy was to negotiate a series of liberalized bilateral treaties with over 20 nations between 1978 and 1982 (Dresner and Tretheway, 1992). Most of these agreements allowed carriers 'the freedom to set capacity without governmental interference, allowed additional routes between (and beyond) the two signatories, promoted competitive rather than IATA price-setting, and strictly limited governmental authority over fare-setting' (Dresner and Tretheway, 1992, pp. 172-173). Two of the more important bilateral agreements involved those established with The Netherlands (1978) and Singapore (1979). Both countries negotiated very liberal bilateral agreements at that time KLM Royal Dutch Airlines and Singapore Airlines sought expanded access to the enormous US market to achieve a competitive advantage. The bilateral agreements allowed: multiple designation (each signatory state may designate as many airlines as it needs to operate on approved routes); country of origin rules for charter flights; liberalized tariff agreements (double-disapproval or country of origin rules); and extensive fifth-freedom rights for US carriers (ie US carriers can carry passengers via intermediate points to Amsterdam/Singapore and beyond). However, owing to the negotiating strength of the USA (no European or Asian nation can provide a domestic aviation market or geographic area equivalent to the USA), the Dutch and Singapore carriers were granted only a limited number of US gateways and few fifth-freedom beyond rights to other countries.

Collectively, the erosion of IATA's power through the Show Cause Order and the introduction of increased pricing freedom through more liberalized bilateral agreements increased the potential for the diversion of traffic from protectionist markets to more liberalized countries (Pustay, 1993). The US strategy of penetrating the North Atlantic and mid-Pacific markets by establishing 'beachhead' agreements (Kasper, 1988) forced many other countries to renegotiate agreements with the USA to maintain a competitive advantage. A few countries have attempted to resist the trend towards liberalization (eg Japan and France) but most countries have at least partially relaxed some bilateral restrictions. Kasper (1988, p. 89) notes that 'by using the "carrot" of access to large, economically attractive markets and the "stick" of diversion', the USA has achieved significant liberalization in certain aviation markets.

However, because of the geographic disparities in market size by nation-state it would appear that additional liberalization may require multilateral approaches if market equivalence is a desired goal. During the 1980s, the focus of regulatory reform switched from the largely US based pro-competitive agenda to the collective multilateral initiative of the European Union (EU).

European liberalization
Up to the mid-1980s, international air service among EU countries was largely governed by a series of restrictive and anti-competitive bilateral agreements between countries (eg restrictions on flight frequencies, capacity controls, limits on the number of designated airlines, traffic or revenue pools usually on a 50-50 basis, and IATA-based tariff agreements). In 1986, the EU countries initiated discussion about establishing a more competitive, internal air transport market to complement reform in other economic sectors relating to trade and tariffs. EU liberalization was gradually phased in through a series of three aviation packages that became effective in 1987, 1990 and 1993, respectively. The 1993 package (which replaced the measures introduced in 1987 and 1990) widened the range of fares that could be set without requiring governmental approval, established multiple designation, removed capacity controls on the number of seats allowed, eliminated restrictions on fifth-freedom rights, and allowed EU airlines to operate between points within an EU country besides the airlines' home country, subject to restrictions (ie 'fill-up' cabotage not full cabotage).

However, in a recent analysis of the effects of European liberalization, the US General Accounting Office (GAO) (1993) concluded that EU members still continue to control their domestic air markets significantly and that the liberalization measures may even limit US airlines' ability to compete in the EU. For example, the 1993 package 'prohibited US and other non-EU airlines from introducing fares lower than existing ones on routes within the EU, having the effect of making EU airlines the primary beneficiaries of the liberalization process' (GAO, 1993, p. 23). In addition, many EU airports remain congested (eg Gatwick, Heathrow and Frankfurt) and the new 'use them or lose them' slot rules to relieve congestion and stimulate competition could allow the EU to withdraw slots from US airlines (in violation of pre-existing bilateral agreements). Also, the granting of full cabotage rights within the EU was delayed until 1997 because of opposition from some EU countries (eg France, Germany, Italy and

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1 For example, KLM is allowed to establish an Amsterdam-Frankfurt-Munich route, but is only allowed to fill 50% of the seats on the Frankfurt-Munich leg and may not operate a Frankfurt-Munich route alone (full cabotage).
Spain) that had strong governmental ties to the national airline and a desire to protect domestic markets from external competitive pressures. Such a move makes it unlikely that the USA and Europe will negotiate the exchange of cabotage rights in the foreseeable future, especially since the generous fifth-freedom rights previously granted to the USA amount to the equivalent of cabotage rights throughout Europe (see Table 1). Conversely, cabotage within the USA is currently prohibited by law.

While it is difficult to anticipate the ultimate effects of EU liberalization, it is clear that they have not been as far-reaching as some might have anticipated. Liberalization has produced very few new entrants and had little effect on fare levels other than on routes between countries with bilateral agreements that are more liberal than the EU’s regulations (e.g., London–Dublin). Furthermore, the EU has yet to reconcile fully the conflicting goals of ensuring a competitive industry within Europe vis-à-vis the global competitive positions of EU carriers. Some globally oriented EU carriers view intra-European traffic as merely hub feed and consider the proliferation of competitors on domestic routes as an impediment to their globalization strategies. For example, Bernard Attali (ex-President of Air France), views the EU liberalization package as “a short-sighted approach focusing only on intra-European competition”, which ultimately will weaken “the airlines of Europe in the battle against their non-European counterparts” (Graham, 1992, p. 249). For these reasons, many EU carriers are responding by expanding global route networks and developing strategic arrangements with both EU airlines and non-EU airlines. Ironically, the potential consolidation of the European airline industry into three or four major airlines (as per the US model) may make the internal EU air transport market less competitive than intended but it may also improve the global competitive advantage of the remaining carriers (especially relative to US airlines). I will now turn to the various strategic alliances that have been negotiated recently between carriers in Europe, and across the world, and outline how some of the more progressive air carriers are effectively circumventing the traditional bilateral system of air service agreements.

### Strategic alliance networks

The trend of consolidation that marked the US airline industry during the 1980s has accelerated through the early 1990s, although, for the most part, this consolidation is taking the form of asset sales (routes, slots, gates) and strategic alliances (joint marketing programs, code-sharing agreements, joint CRS operations, cross-holding arrangements and minority ownership) rather than the outright mergers and acquisitions that characterized earlier changes. Much the same trend has occurred outside the USA, especially in Europe, where the larger European carriers initially bought out the smaller airlines in their home country in order to solidify their competitive advantage at key domestic airports (e.g., the acquisition of British Caledonian by British Airways). However, as the domestic airline industries have consolidated, the larger carriers have begun to seek out strategic alliances with select foreign carriers. These alliances do not include merger or acquisition arrangements because traditional bilateral air service agreements typically prohibit majority ownership and/or impose caps on the extent of equity involvement by foreign airlines in domestic carriers. Nationalistic pride in the national flag carrier and the fact that many airlines are partially or wholly owned by the national government make all out mergers or acquisitions even less likely. For these reasons, carriers have instead developed ‘strategic tie-ups’ with functionally related foreign airlines in what increasingly appears to be an ‘end run’ around the constraints imposed by the current regulatory system.

Globally based alliance networks allow carriers many advantages including: improved access to other continents, complementary route networks, valuable slots and gates at otherwise slot-controlled hub airports, and the development of a domestic feeder network in another country. Because cabotage (i.e., domestic air service by a foreign airline) is

### Table 1 US airline operations between EU countries, 1991

<table>
<thead>
<tr>
<th>Airline</th>
<th>Route</th>
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<tbody>
<tr>
<td>American</td>
<td>Brussels–Düsseldorf</td>
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<tr>
<td></td>
<td>Amsterdam–Hamburg</td>
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<tr>
<td></td>
<td>Amsterdam–Stuttgart</td>
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<tr>
<td></td>
<td>Athens–Frankfurt</td>
</tr>
<tr>
<td>Delta</td>
<td>Amsterdam–Hamburg</td>
</tr>
<tr>
<td></td>
<td>Athens–Frankfurt</td>
</tr>
<tr>
<td></td>
<td>Frankfurt–London</td>
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<tr>
<td></td>
<td>Hamburg–London</td>
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<tr>
<td></td>
<td>London–Munich</td>
</tr>
<tr>
<td>Pan Am</td>
<td>Athens–Frankfurt</td>
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<tr>
<td></td>
<td>Frankfurt–London</td>
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<tr>
<td></td>
<td>Hamburg–London</td>
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<tr>
<td></td>
<td>London–Munich</td>
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<tr>
<td>TWA</td>
<td>Athens–Rome</td>
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<tr>
<td></td>
<td>Berlin–London</td>
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<tr>
<td></td>
<td>Frankfurt–London</td>
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<tr>
<td></td>
<td>Hamburg–London</td>
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<tr>
<td></td>
<td>London–Munich</td>
</tr>
<tr>
<td></td>
<td>Munich–Paris</td>
</tr>
<tr>
<td></td>
<td>Paris–Rome</td>
</tr>
<tr>
<td>United</td>
<td>Berlin–London</td>
</tr>
<tr>
<td></td>
<td>Frankfurt–London</td>
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<tr>
<td></td>
<td>Hamburg–London</td>
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<tr>
<td></td>
<td>London–Munich</td>
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</tbody>
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Note: Routes occur in both directions, and flights begin or end in the USA. Pan Am routes were purchased by Delta and United in 1991, and US airlines have additional fifth-freedom rights that they are not exercising. Most of the above routes involve 100 flights or more per year.

Source: GAO (1993)
prohibited by law in the United States, many foreign carriers view the development of a strategic alliance network, involving the partial ownership and control of a US airline, as a way of building up a feeder network for international routes originating in the USA. Without a strategic partner, a foreign carrier can experience difficulty accessing a major hub airport in another country because of the scarcity of slots and gates, the proliferation of ‘fortress’ hubs, and the investment costs of developing overseas markets and routes. The difficulty and importance of selecting a US partner was aptly illustrated by the collapse of the merger talks between KLM, SAS, Austrian Airlines and Swissair in late 1993. All four carriers agreed that the merger would not succeed without a US affiliate. However, the airlines were unable to agree on an appropriate partner because three of the four carriers had pre-existing strategic alliances with different US carriers.

As the web of multi-carrier alliances evolves into a multiplicity of agreements and negotiated arrangements, many carriers now find themselves members of multiple ‘overlapping’ alliances, resulting in highly complex and convoluted network systems. Furthermore, many alliances obscure the nationality of carriers through various cross-holding arrangements. The proliferation of such alliances makes it increasingly difficult to establish the ground rules for bilaterally based negotiations that demand a clear country of origin for the relevant carriers. Consequently, alliance networks tend to flourish only in regulatory environments where the air carriers and national governments act in concert to encourage innovative global systems and opportunities.

It is clear that a number of alliance groupings are taking shape that may play a pivotal role in dictating the type of structural changes that may occur in the industry in the decade ahead. Oum et al (1993) identified four emerging possibilities based on current international carrier alliances:

(1) British Airways and US Air;
(2) Northwest Airlines and KLM Royal Dutch Airlines;
(3) Delta Airlines, Swissair and Singapore Airlines;
(4) Continental Airlines, SAS and Air Canada.

Other emerging global alliance networks include: Lufthansa and United; and Spain’s Iberian Airlines’ Latin American alliance with Aerolineas Argentinas, Venezuela’s Viasa and Chile’s Ladeco Airlines. I now focus attention on a case study of three of the more innovative strategic alliance networks that appear to be circumventing the traditional bilateral system.

**The British Airways/US Air alliance and the London gateway**

Of all the various alliances, it is the BA/US Air alliance that is widely regarded as the forerunner of a truly global network with worldwide operations. In early 1993, the US government approved the purchase of 21.8% of US Air’s voting stock by BA, with options to invest up to $450 million more over the next five years. However, US law currently limits foreign investment in US airlines to 25% of the airline’s voting stock, and this cap will be exceeded if BA acquires the future options to US Air. To leverage bilateral reform, the USA has indicated that the future options will be granted to BA only if the UK government adopts a more liberal aviation treaty with the USA.

Although the outcome of US–UK negotiations is uncertain, exchanges of equity are more permanent and long term than marketing alliances (since these can be severed fairly easily and with minimal disruption). The BA investment in US Air and other airlines is, therefore, a serious attempt to create the world’s largest alliance network in terms of passengers carried. Many believe the BA ‘axis’ is set to challenge American Airlines as the world’s biggest airline based on revenue passenger miles. Through a variety of shareholding arrangements in various foreign carriers, BA has established an extensive geographic presence with feeder route networks that include the following continents: North America (US Air), Europe (Deutsche BA, TAT European Airways of France and Air Russia); and Australia (Qantas). At the time of writing, BA was also interested in TWA and Cathay Pacific of Hong Kong, and has already been involved in extensive negotiations with KLM and Sabena Airways of Belgium. While talks with KLM and Sabena have broken off, it is possible that an alliance may still be negotiated with these carriers. Of the four or five global alliance networks that will likely dominate intercontinental city-pair markets, it is widely anticipated that the BA/US Air operation will be competitive because of the geographic complementarity of the route network, the availability of an international gateway (ie London’s Heathrow Airport), the financial stability of the senior partner (BA reported an operating profit of $502.5 million in 1992, second only to Singapore Airlines’ $611 million) (Air Transport World, 1993a), and the liberalized bilaterals between most countries involved in the system.

The BA/US Air system is certainly well placed given the current geography of airport operations and city-pair markets. Figure 1 illustrates the importance of the North Atlantic market in air transportation. Air carriers operating out of London’s Gatwick and Heathrow Airports are strategically located in terms of serving the long-haul, high-volume intercontinental city-pair market across the North Atlantic and in select Europe–Asia markets. Much of London’s competitive advantage comes from the liberal UK–US bilateral that allowed carriers in the UK–US market to develop route systems more freely, relative to other markets. Key high-volume city-pair markets to London across the North Atlantic
include: New York (the second busiest international market in the world with over 2.3 million scheduled air passengers in 1991, see Table 2), Los Angeles, Miami, Boston, Washington, DC, San Francisco, Chicago, Atlanta and Toronto. London acts as the European gateway for air traffic between these select North American cities, and British Airways is the dominant incumbent at both Heathrow and Gatwick.

On a more cautionary note, a potential problem for the BA/US Air alliance is that US Air does not have a significant presence (in terms of routes, slots or gates) at any of these key cities, and the traditional US Air strongholds – Pittsburgh and Charlotte – have not been granted many international routes by authorities. US Air has also experienced operating difficulties with net losses of nearly $2 billion since 1990, including a 1992 deficit of $600 million.

Despite this, BA is strategically well positioned to take advantage of the more competitive environment

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**Table 2** Largest international city-pair markets ranked by passenger volume, year ending June 1991

<table>
<thead>
<tr>
<th>City-pair</th>
<th>Passenger volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. London–Paris</td>
<td>3,012,552</td>
</tr>
<tr>
<td>2. London–New York</td>
<td>2,336,462</td>
</tr>
<tr>
<td>3. Singapore–Kuala Lumpur</td>
<td>1,965,063</td>
</tr>
<tr>
<td>4. Hong Kong–Taipei</td>
<td>1,939,216</td>
</tr>
<tr>
<td>5. Hong Kong–Tokyo</td>
<td>1,915,935</td>
</tr>
<tr>
<td>6. Tokyo–Honolulu</td>
<td>1,871,900</td>
</tr>
<tr>
<td>7. Singapore–Jakarta</td>
<td>1,696,326</td>
</tr>
<tr>
<td>8. Bangkok–Hong Kong</td>
<td>1,622,656</td>
</tr>
<tr>
<td>9. Amsterdam–London</td>
<td>1,619,168</td>
</tr>
<tr>
<td>10. Tokyo–Seoul</td>
<td>1,551,225</td>
</tr>
<tr>
<td>11. London–Dublin</td>
<td>1,477,309</td>
</tr>
<tr>
<td>12. New York–Paris</td>
<td>1,255,979</td>
</tr>
<tr>
<td>13. Frankfurt–London</td>
<td>1,207,661</td>
</tr>
<tr>
<td>14. Los Angeles–Tokyo</td>
<td>1,088,509</td>
</tr>
<tr>
<td>15. Bangkok–Singapore</td>
<td>1,062,096</td>
</tr>
</tbody>
</table>

Notes: *City is defined as metropolitan area and may include several airports (e.g. London includes Gatwick and Heathrow); passenger volume includes traffic in both directions.*

offered by EU liberalization given the carrier's low per-mile operating costs, and the fact that it is the only large fully privatized carrier in Europe. Furthermore, London's Heathrow and Gatwick Airports rank collectively as the largest international air passenger destination in the world and, in 1991, both airports combined gave a total of over 50 million international passengers (embarked plus disembarked) (ICAO, 1993). By comparison, the second largest metropolitan destination – Paris's De Gaulle and Orly Airports – generated collectively just under 28 million for the same year. Figure 2 illustrates that London also has a large number of high-volume routes to Europe including the lucrative, high-yield London-Paris market which generated over 3 million passengers in 1991 (ICAO, 1993), making it the busiest international city-pair market in the world (Table 2) (although the completion of the Channel Tunnel in 1994 will fundamentally alter this market). Traditionally, British Airways operated the London-Paris route through a 50-50 revenue pool with Air France and, in effect, extracted monopoly profits. While the EU regulatory environment has since been radically altered, BA continues to dominate the London–Paris market, and remains the premier airline in the intra-European market.

The 'New' Asia: Singapore Airlines and Changi International Airport

A recent IATA report forecast that the Asia/Pacific region will account for 40% of international scheduled traffic by the year 2000 compared with just 25% at present, making Asia one of the most strategically important growth markets for the international airline industry. Indeed, the region already accounts for seven of the top ten largest international city-pair markets in the world (Table 2). Much of the current and projected growth comes from the strong performance of the region's economy, increased income levels, the intense promotion of tourism in select destinations, and the proliferation of liberalized bilaterals in key markets. Given the anticipated growth rates, infrastructural capacity constraints are rapidly becoming major concerns for the region and several destinations are now attempting to compete

![Intra-European international air passenger city-pairs for London and airport passenger volume, 1991](image_url)
by expanding airport capacity to capture a greater proportion of the projected growth in select city-pair markets.

Traditionally, Asia's premier international gateway is Tokyo's Narita Airport which embarked and disembarked 17.7 million international passengers in 1991 (ICAO, 1993). However, in recent years, capacity limitations and airport congestion at Narita have become major threats to expansion plans. Infrastructural constraints threaten to restrict air passenger growth at other Asian airports as well, including Hong Kong, Bangkok, Kuala Lumpur, Osaka and Seoul despite the construction or planning of new airports and/or terminals at all of these destinations (eg Kansai International Airport near Osaka).

By stark contrast, Singapore's Changi Airport, which only opened in 1981, processed 15 million international passengers in 1991 (ICAO, 1993), but can handle up to 24 million passengers a year (and an additional terminal is already under construction). The excess capacity at Changi means that it is one of the few Asian air traffic hubs well placed to deal with the projected growth in international passengers. While Tokyo is the leading intercontinental gateway in Asia, it is Changi that is the fastest growing airport. Changi also serves a larger number of different high-volume city-pair markets within the region than does Narita (Figure 3). The dominant incumbent at Changi is Singapore Airlines (SIA) and Figure 3 illustrates the strategic importance of Changi in the Australasian market.

SIA has rapidly expanded both its regional and intercontinental operations at Changi and, in 1992, SIA had flights to 66 cities in 40 countries out of Changi (Financial Times, 1993). The carrier was also the world's most profitable airline in 1992 (the Asia region produced six of the top seven airlines in terms of net profit). SIA also established one of the world's first strategic global alliance networks when it agreed to a 5% equity swap with Delta and Swissair in late 1989. Cooperation includes coordinated flight schedules, joint marketing agreements, blocked-space arrangements, code-sharing and joint purchasing although the level of equity involvement is not as extensive as in the BA/US Air case.

While international trading links and the rapid

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Figure 3  Intra-East Asia/Australia international air passenger city-pairs for Singapore and airport passenger volume, 1991
expansion of the tourist industry have contributed to the growth in Singapore's traffic base, the deregulation of air transport has also played a significant role. According to Bobert and Colisson (1989, p. 32), 'the phenomenal growth of trans-Pacific service through Singapore can only be traced to the liberal accord with the United States and the extent to which Singapore Airlines is willing and able to exploit the freedoms contained therein'. The US–Singapore bilateral has long been widely regarded as a model accord for international deregulation since it included multiple designation and no capacity controls or limits on flight frequencies, and was one of the first bilaterals to introduce double-disapproval without a defined zone of rate flexibility.

Additionally, the Singapore government has aggressively courted foreign carriers to use Changi as a regional hub. In 1989, Singapore signed an agreement with the UK to allow BA hubbing rights out of Changi. Other airlines recently approached by the Singapore government include United Airlines, Qantas and Japan Airlines. In return, SIA and the Singapore government have lobbied for increased traffic rights in other destinations resulting in liberal revisions to the Singapore–Australia and Singapore–US bilaterals, amongst others.

**Spain's Iberia Airlines and the 'natural market' approach**

One of the more innovative strategic approaches by a carrier involves Iberia Airlines. The Spanish flag carrier is emphasizing a 'natural market' approach that involves Latin American service to Madrid via Miami. The cultural and linguistic similarities of Spain and Latin America provide a natural tie for Iberia and, traditionally, Iberia is the most frequent European flier to Latin America. What is new and unprecedented is the manner in which Iberia is using its fifth-freedom rights out of Miami. During US–Spain bilateral negotiations in 1991, the Spanish government was able to acquire 'beyond rights' from Miami to 18 US destinations in exchange for granting transatlantic route rights from the USA to Spain (specifically for Continental, Delta and United). Largely due to the rights granted in the revised bilateral accord, Iberia Airlines has built up its market share at Miami and has become the first foreign carrier to establish a significant hub operation within the USA.

While the development of the Miami hub is the strategic imperative, Iberia's 'natural market' strategy is broader than the establishment of just the Miami hub. Figure 4 illustrates that Miami has extensive connections to Latin America. Consequently, during the early 1990s, Iberia expanded its route network in Latin America. It did so by acquiring a 30% stake in Aerolíneas Argentinas, 35% of Ladeco, a Chilean airline, and 45% of Viasa of Venezuela. Not surprisingly, Iberia is also attempting to establish mini-hubs in Buenos Aires and Caracas through its affiliated carriers (ie Aerolíneas and Viasa).

Thus, while the US–Spain bilateral agreement prohibited 'beyond rights' from Miami to Argentina, Brazil, Paraguay and Uruguay, Iberia Airlines has still managed to serve a substantial portion of South America through its affiliated carriers. A long-term goal of Iberia and the Spanish government is to negotiate a multilateral pact with each of the Latin American nations that are part of the Iberia route system and establish Madrid's Barajas Airport as the Latin American gateway into Europe.

The ultimate goal of Iberia's grand strategic design, however, is to capture a substantial portion of the north–south traffic between Latin America and the USA. The geographic logic behind such an approach is that, unlike the major European carriers (eg British Airways, Air France and Lufthansa), Iberia cannot successfully compete head-to-head with the 'Big Three' (ie American, United and Delta) in the highly competitive North Atlantic market (Figure 1). However, Iberia has few rivals in its 'natural market' over the South Atlantic, although it must compete successfully with American (which acquired Eastern Airlines' Latin American system) in the inter-Americas market if it is to develop a significant north–south traffic base.

How successful Iberia is with its 'natural market' approach is contingent upon a number of key factors. It is unclear how competitive Iberia will be in the liberalized intra-European aviation market. Ironically, while Iberia attempts to establish a liberalized, multilateral system in the less competitive Latin American market, it remains one of a handful of European carriers that continue to be wholly government-owned and is, therefore, heavily subsidized by the Spanish government. Iberia Airlines also continues to experience problems of overstaffing and high operating costs. EU liberalization may seriously jeopardize Iberia's Latin American strategy since it may not be able to compete effectively in Europe, and subsequent losses may mean a retrenchment of the Latin American system because of the need to introduce cost-saving schemes. Indeed, in 1991, Iberia reported the largest losses (ie $350 million) of any major international airline in the world (The Times, 1992). Furthermore, by late 1993, Iberia announced it was considering reducing its stock capital in some of its Latin American carriers and closing its Miami hub (which had been losing $15.5 million a year). Iberia also had to contend with an increasingly nationalistic backlash in Latin America to the 'new Spanish colonization' and major problems with Aerolíneas Argentinas which, in 1992, was $1 billion in debt with losses of nearly $200 million (Wall Street Journal, 1993).

**Summary**

Exactly how the Iberia 'natural market' strategy and the alliance networks of the other carriers will
ultimately evolve is unclear. However, it is clear that the ongoing success or failure of any alliance network is very dependent on the effectiveness of various levels of strategic negotiation, including: the precedents established in government-based bilateral negotiations, the ongoing implementation of the EU’s liberalization package (including full cabotage), infrastructural constraints relating to slots, gates and airport terminal capacity, and the potential establishment of a multilateral negotiating system that can deal effectively with the issue of market equivalence. It would seem that even the most progressive international air carriers do not yet operate in a perfectly competitive 'open skies' environment and the industry continues to be dominated by a small number of very large carriers. Indeed, many governments with less efficient national flag carriers are even attempting to establish more restrictive bilateral air service agreements. I now examine this diametrically opposing pressure for bilateral reform that acts on the existing regulatory structure.

Bilaterals and the 'balance of benefits' conundrum

Ironically, while many carriers are developing strategic alliance networks that attempt to circumvent the imperfectly competitive environment engendered by the traditional bilateral system, several key aviation states have pressed for more restrictive bilateral accords with the USA including France, Germany, Japan and Australia. All of these countries believe that current bilaterals provide US-based carriers with a competitive advantage through an inequitable ‘balance of benefits’. In the USA, the notion of reciprocity or ‘balance of benefits’ has been a fundamental underlying premise of international aviation policy, whereby the USA seeks to gain as much for itself as it grants to the other country in bilateral negotiations (ie the fair and equal exchange of rights). Traditionally, part of this balance has been achieved by the USA offering more ‘soft’ rights (such as an agreement to allow code-sharing or marketing alliances) than ‘hard’
rights (such as route rights) since the bilateral partner rarely has a significant domestic market to offer in exchange. The USA also often seeks 'beyond rights' for US airlines as compensation for any imbalance in a specific country market. However, the rapid overseas expansion of US carrier route networks in some country-pair markets has resulted in severe market share imbalances that now favor the USA.

In response to a perceived imbalance of benefits, France renounced the 1946 bilateral with the USA in 1992, and sought a more restrictive agreement that would ensure that French carriers retained a 40% share of the North Atlantic market. The French government also sought to prohibit all fifth-freedom rights granted to US carriers in the 1946 bilateral. Part of the concern comes from Air France's declining market share in the North Atlantic. In 1979, US flag-carriers' capacity market share was 45% of the US-France market but this had risen to 70% in 1993 (Air Transport World, 1993b). While the radical change in market share is partly explained by the favorable terms negotiated by the USA in 1946, it is also partly explained by the high operating costs and inefficiencies of the government-owned national flag carrier – Air France – which has been unable to compete effectively with the larger US carriers.

In another case, Australia and the USA threatened retaliatory sanctions, in 1993, relating to a dispute over Northwest's fifth-freedom rights on the Osaka–Sydney leg of a New York-originating flight. The 1991 US–Australia bilateral allowed only 'fill-up' cabotage on the Osaka–Sydney leg with the traditional 50% cap on pick-up passengers. However, the Australian government claimed Northwest was picking up more than 50% of its traffic in Osaka bound for Sydney. While the Australian government has agreed to suspend planned arbitration of the '50% condition', the 15-member Orient Airlines Association (OAA) has broadened the scope of the dispute and initiated joint action demanding a 'level playing field' and access to more US gateways and fifth-freedom rights. According to the OAA, US carriers can fly from a total of 21 gateways into Asia, while Asian carriers can reach the USA from only nine cities (Aviation Week and Space Technology 1993).

On a more encouraging note, the 1993 resolution of the US–Germany bilateral dispute sheds light on how the process of strategic negotiation between governments can provide tangible benefits to air carriers that are actively seeking to establish alliance-based networks. In 1993, Germany threatened to renounce its 1956 bilateral with the USA because of what the German government viewed as a serious imbalance in fifth-freedom traffic between the two nations, and concern over Lufthansa's declining market share in the North Atlantic market. US flag carrier capacity market share in the US–German market was only 29% in 1979 but had risen to 59% in 1992 (Air Transport World, 1993b). Despite these concerns, in late 1993, the USA and Germany reached agreement on a Memorandum of Consultation (MoC), although a comprehensive bilateral agreement was not signed. The USA agreed to a two-year freeze on the number of US flights to Germany to allow Lufthansa time to restructure and privatize, and thus lower operating costs to US carrier levels. In exchange, Germany agreed to an immediate 'open skies' agreement for all freight traffic. Both governments also agreed to encourage strategic alliances by facilitating code-sharing opportunities between Lufthansa and a US carrier (over the objections of Delta who purchased PanAm's Frankfurt hub and routes at considerable expense). Code-sharing allows alliance partners to feed more passengers to one another by coordinating connecting services under one flight number in various computer reservation systems.

Less than two weeks after the revised air-service treaty had been signed, Lufthansa and United agreed to a broad, cooperative pact involving joint marketing and operations, cooperative frequent flier programs and a code-sharing arrangement. While no equity changed hands, the code-sharing arrangement provided Lufthansa with extensive access to the US market and broadened United's 'beyond rights' in Europe (although, in early 1994, the US government deferred approval for portions of the code-sharing agreement). Since it is widely believed that the outcome of the talks will set a precedent for those with other countries – including Japan, France, and Australia (The Times, 1993 p. cl), the US–German accord would appear to suggest that the regulatory environment is evolving towards a system that actively encourages strategic alliances.

Although the resolution of the US–German dispute is reason for optimism, the increasing frequency of bilateral disputes underscores the limitations imposed on a rapidly globalizing air transport system that is governed by roughly 1400 international agreements dating from 1944. While the bilateral system may once have safeguarded the interests of smaller nation-states whose flag-carriers might not have succeeded without protectionist policies, a number of related factors suggest that the efficacy of bilateralism as a vehicle for liberalized trade and open skies is fundamentally flawed. First, the geographical disparities in nation-state boundaries and domestic markets make it difficult to apply an equitable 'balance of benefits' policy in negotiating any given bilateral accord. For example, what can a smaller country offer the USA in return for access to the enormous US air transport market? Second, the emergence of multi-country carriers renders the entire notion of bilateral reciprocity increasingly redundant. Bilateral agreements have tended to mandate that the participating airlines be owned substantially by nationals of the home...
country but, in a recent analysis of the impact of international competition, the US GAO (1992, p. 45) concluded that as strategic alliances and ‘cross-border investments become more common, it will become more difficult for governments to analyze the distribution of benefits accruing to their own country from bilateral agreements’. Although it should be noted that problems relating to the route rights of multi-country carriers have been worked out before (eg SAS, Gulf Air and Air Afrique), the level of alliance network complexity is unprecedented and the pressure for bilateral reform continues to build.

Conclusion: is targeted pluralateralism an interim answer?

The recent proliferation of cross-border investments and strategic alliances is a clear indication that the international airline industry is preparing for an era that includes global consolidation and a possible shift from the highly regulated, restrictive bilateral system to a more open, competitive multilateral system of air service agreements. This paper has argued that the barriers to such a shift will be formidable because the sources of competitive advantage vary greatly on a country-by-country basis, the marketplace is imperfectly competitive since it is controlled by a small number of large suppliers, and some governments have a substantial vested interest in the airline industry. The issue of market equivalence remains an acute problem, particularly for countries with large domestic markets, posing great difficulties for countries where traditional aviation policy focuses on a ‘balance of benefits’ doctrine. Also, neoclassical international trade theory and the theory of contestable markets are viewed as inadequate theoretical explanations since they appear unable to accommodate the notion that various barriers to entry and regulatory conditions continue to distort the marketplace severely.

However, new market structures are emerging including the advent of regionally based liberalization, multi-country carriers and the proliferation of alliance-based systems, which suggest a climate that is more receptive to multilaterally based approaches. Particularly encouraging are the findings of both the US President’s Commission for a Competitive Airline Industry and the so-called Wise Men Committee appointed by the EU Transport Commissioner to study EU liberalization. In arguing for an open skies, multilateral system, the US Commission stated that ‘to put it simply, the bilateral agreement system stymies growth in the global marketplace; it does not encourage it’ (US President’s Commission, 1993, p. 3), while the Wise Men Committee urged that the EU press on with liberalization suggesting that ‘there is no way back to the previous era of nationalistic protectionism’ (Aviation Week and Space Technology, 1994, p. 26). In particular, a proposal to grant the EU Commission the authority to negotiate new aviation agreements for all 12 member countries with various non-EU countries (such as the USA) may have long-term implications. A unified, external EU policy toward the USA may be the first step toward fair and balanced aviation relations, but it is unlikely that this would be effective until the late 1990s, and the proposal faces strong opposition from the more protectionist EU members.

In the interim, groupings based on a targeted pluralateral approach are being advocated. Frederik Sorensen (Air Transport Division Head for the EU Commission) defined a pluralateral agreement as:

One between two nations which other nations could endorse. Through this method, a pluralateral agreement would become multilateral as other nations or groups of nations become signatories. (Aviation Week and Space Technology, 1992, p. 30)

A targeted approach with a small group of like-minded liberal airlines and governments would allow negotiators to reach agreement more readily since the initial member countries would likely share broadly consistent interests. Such a grouping would probably include the USA, some EU members (eg the UK and The Netherlands) and some Asian countries (eg Singapore) especially where the national flag carrier has already established a strategic alliance with a foreign airline(s). Non-participating airlines would be likely to find themselves at a competitive disadvantage through traffic diversion to the liberalized bloc, and membership in the bloc would rise gradually over time.

However, difficulties will be encountered since governments will have to make tough decisions relating to long-term international aviation policy (eg full cabotage, no price controls, foreign ownership of national flag-carriers, elimination of government subsidies). Furthermore, unless governments are careful, it is entirely possible that multilateral liberalization and globalization may create new anti-competitive structures. Regulatory restrictions by government may simply be replaced with oligopolistic industrial structures that are anything but pro-consumer or pro-competitive, where the industry is dominated by a few airlines, principally US operators, and the marketplace continues to be anything but perfect.

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