International Transport Forum

Air Service Agreement Liberalisation and Airline Alliances

Country-Specific Policy Analysis

OECD

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INTERNATIONAL TRANSPORT FORUM

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Executive Summary

This document explores the key elements of bilateral air service agreements (ASAs) and recent trends towards increasing liberalisation and examines linkages between ASAs and cross border airline alliance. It discusses issues related to antitrust reviews of proposed alliances and summarises and comments on the impacts of international airline alliances.

The conventional wisdom is that liberalisation of air services between countries generates significant additional opportunities for carriers, consumers, shippers, and the numerous direct and indirect entities and individuals affected by such liberalisation. Conversely, restrictive bilateral air service agreements between countries stifle air travel, tourism and business and, consequently, economic growth and job creation.

The report reviews a number of studies that have documented the empirical effects of liberalisation of air services. One of the main findings is that, on balance, there is strong evidence that liberalisation of bilateral air service agreements leads to substantial benefits for carriers, travellers/shippers and economies in general. Even liberalising bilateral air service agreements in an incremental fashion can generate significant benefits.

The analysis shows, among other results, that just one year after the liberalisation of individual bilateral agreements involving the United States, traffic increased by as much as 174%. On average the increase was roughly a doubling of traffic. Similarly, a 2002 report prepared for the European Commission found that, on average, passenger traffic annual growth rates increased from 4.4% in the years prior to an open skies agreement between a European country and the U.S., to 7.8% in the years following the signing of an open skies agreement. In comparison, transatlantic markets not subject to an open skies agreement saw no notable change in growth rates over the same period.

A study by the World Trade Organization (WTO), with data on passenger flows between 184 countries, also examined the impact of liberalisation on traffic volumes. The analysis found that complete or near-complete liberalisation resulted in traffic increases of 30%, on average, although some impacts were as high as 86% on some country pairs.

Positive effects on fares have also been identified. For example, a 2000 study by the U.S. Department of Transportation found that fares on routes with an open skies agreement between the U.S. and a European country had declined by 20.1% between 1996 and 1999, while fares on routes subject to a non-open skies bilateral agreement had declined by only 10.3%.

Oum, Zhang and Fu (2010) investigated the impacts of liberalisation on traffic volume and patterns, as well as on economic growth. In addition, they examined the underlying mechanisms leading to those impacts. The authors found that liberalisation increases route competition and airline efficiency, which reduced prices and increased both quality of service and traffic volumes. The latter, in turn, boosts job creation and economic growth.

The evidence regarding the effects of antitrust immunised alliances is more mixed but, in general, the empirical literature finds that most alliances produce benefits to both the allied carriers and the consumers. Airline alliances are cooperative arrangements between airlines, ranging from interline agreements to highly integrated forms of cooperation such as metal-neutral revenue sharing joint ventures. An important benefit enabled by an alliance is access to traffic that in the absence of the alliance would not be possible, due to limitations established by bilateral ASAs or national laws.

Alliances have greatly benefited consumers in connecting markets, both by lowering the average fare they pay and by reducing the time required for their journey. The value of time for airline travellers is such that the time saving benefits are very substantial. The fare benefits derive in part from reducing the double marginalisation that arises when unallied carriers independently determine the price for different segments of an interline trip.

Online connections also mean that passengers do not have to transfer to other airlines, which greatly simplifies baggage transfers, ticketing, check-in procedures and schedule coordination, producing further benefits for consumers. Other positive effects from alliances for passengers, documented in various studies, include expanded number of destinations for travellers, lower fares for connecting passengers in international markets and an increase in passenger traffic stimulated by lower fares.

Another key finding of this study is that there is a nexus between liberalised ASAs and anti-trust alliance authorisation. Competition authorities review alliances on a case by case basis to determine what impacts they have on competition in the marketplace. If net impacts are positive, alliances are typically approved and granted antitrust immunity.

A central issue for competition agencies in reviewing and authorising an agreement between airlines is that there must be low entry barriers into the markets. To the extent that a bilateral air service agreement restricts access to add or expand air service for existing and potential airlines, it may pose a substantial barrier to entry, fostering the undesirable consequences of an alliance, such as price increases.

While liberalised or open-skies' ASAs generally do not include stipulations for authorising airline alliances, their provisions change market conditions in such a way that some or most competition authority requirements regarding alliances can be achieved, which facilitates authorisation.

The second significant potential barrier to entry is limited access to take-off and landing slots at airports. This issue was raised in several reviews by competition authorities of alliances and cross-border mergers. Slot access, however, needs to be reviewed in the context of a particular alliance and with respect to specific routes operated by that alliance.

Remedies that are typically applied by competition authorities to approved alliances include the following: carve outs; carriers may be required to relinquish take-off and landing slots or make them available for lease to competing airlines at airports with restricted capacity; withdrawal from consultations or participation in negotiation of fares, rates and charges through IATA; limits to duration of alliances.

1. Introduction

1.1 Purpose

The objective of this report is to provide an overview of the key principles and issues underlying bilateral air service agreements (ASAs) and the authorisation of cross border airline alliances, so it helps guide public policy given the observed global trend towards both liberalising ASAs and establishing wider and deeper networks by carriers.

Bilateral air service agreements (often called ASAs, bilaterals and occasionally ATAs for air transport agreements) have been around almost as long as flight itself. As flying became more popular and airlines expanded their service, nations around the world and their associated airlines realized the need for air service agreements to facilitate the provision of international air service, protect their airlines against unfair foreign competition and to create new opportunities for those same airlines outside the borders of their home country.

Prior to liberalised ASAs and particularly open skies agreements, ASAs tended to be lengthy documents which regulated every aspect of international air service, including number of carriers, seat capacity, routes and fares.

Liberalisation of international air services is widely believed to generate significant additional opportunities for carriers, consumers, shippers, and the numerous direct and indirect entities and individuals affected by such liberalisation. Conversely, restrictive bilateral air service agreements between countries stifle air travel, tourism and business and, consequently, economic growth and job creation.

According to ICAO, as of October 2012 there were 400 liberalised agreements involving 145 states. A number of studies have documented the empirical effects of liberalisation of air services. One of the main findings is that, on balance, there is strong evidence that liberalisation of bilateral air service agreements leads to substantial benefits for carriers, travellers/shippers and economies in general. Even liberalising bilateral air service agreements in an incremental fashion can generate significant benefits.

International airline alliances originated in part as a way to overcome the barriers to entry posed by ASAs. In network planning, international airlines often envision a route structure which includes routes between their home country and another, and often times, routes beyond that country to a third country. However, airlines are required by most bilaterals to abide by the route rules established for their nation, which sometimes preclude them from serving points they would like to do so. By forging an alliance with another carrier, an airline can expand its network and provide customers with many more itinerary combinations than it could on its own.

Although airline cooperation in one form or another stretches back decades, including co-branding and interline relationships, the 1992 signing of the open skies agreement between the U.S. and the Netherlands heralded a new age of airline alliances which has encompassed many countries.

Prior to forming an alliance, partner carriers would typically seek antitrust immunity or other forms of authorization in jurisdictions where competition in the provision of air transport services may be affected by the alliance. Institutional frameworks as well as legal and regulatory regimes that govern reviews and approvals of airline alliance differ from one jurisdiction to another.

In reviewing and authorizing an airline alliance, antitrust agencies weigh its pro-competitive benefits against anti-competitive effects. Competition from other airlines may be limited if there exist high barriers to entry on a given route. In airline markets, the two key barriers to entry have been, at various times and places, constraints on rights to operate commercial air services contained in bilateral air service agreements and limited access to airport capacity (slots).

Although liberalised or open-skies' ASAs generally do not include stipulations to authorise airline alliances, their provisions revise market conditions in such a way that some or most competition authority requirements regarding alliances can be achieved, which facilitates the formation of the latter. Often regulators have also applied remedies to ensure that air service markets remain competitive when authorising airline alliances, which may range from airport slot divestitures to carving out certain routes from alliance authorisation, to requiring allied carriers to provide access to competitors to their frequent flyer programs.

In general, the empirical literature finds that most authorised alliances have produced benefits to both the allied carriers and the consumers. Alliances have benefited consumers in connecting markets by lowering the average fare they pay and by reducing the time required for their journey. Further benefits include simplified baggage transfers, ticketing and check in procedures, as well as schedule coordination.

1.2 Outline

This report is structured as follows:

Section 2 reviews the typical elements of an ASA, describes the elements specific to open-skies agreements and analyses the recent trend towards liberalising ASAs, with an emphasis on the US experience.

Section 3 studies the rationale behind airline alliances and discusses the linkages between ASAs and international airline alliances, focusing on provisions in liberalised and open-skies bilateral ASAs that facilitate the formation of alliances.

Section 4 summarises findings on the impact of liberalised ASAs and immunised international airline alliances on passenger traffic, fares and service levels in international markets.

Section 5 identifies key elements of antitrust reviews of airline alliances, and contrasts the institutional, legal and regulatory frameworks of selected jurisdictions for reviewing and authorising international airline alliances .

Appendix A, B, C and **D** provide additional information to support the main findings in this report.

2. Bilateral Air Service Agreements

2.1 Major Provisions of Air Service Agreements

Bilateral air service agreements (often called ASAs, bilaterals and occasionally ATAs, for air transport agreements) have been around almost as long as flight itself. In 1913, Germany and France exchanged diplomatic notes to establish traffic and service guidelines for airship service between the nations[1]. As flying became more popular and airlines expanded their service, nations around the world and their associated airlines realized the need for air service agreements to facilitate the provision of international air service, protect their airlines against unfair foreign competition and to create new opportunities for those same airlines outside the borders of their home country. Bilateral agreements were often written with the intent to protect the flag carriers of the two nations, and diplomatic missions often went to great efforts to craft an agreement most favourable to their sides, resulting in very detailed and lengthy agreements.

Ultimately, in 1944, the Convention on Civil Aviation (the Chicago Convention), created an organization under the umbrella of the United Nations to establish rules and guidelines on civil aviation and its treaties. This organization, the International Civil Aviation Organization or ICAO, does not make the treaties or even write them, but it has created a framework for treaties and an operating environment for airlines to safely operate international commercial air service.

Prior to open skies agreements, ASAs tended to be lengthy documents which regulated every aspect of international air service, including number of carriers, seat capacity, routes, fares and in a few cases, city ticket offices and even aspects of service quality such as sandwich size.

Open skies agreements seek to provide broad opportunities for carriers and in the process streamline the ASA document. These treaties typically allow the free market to establish prices, routes and capacity, as well as the number and identity of carriers providing service. In fairness, there are a number of ASAs that predated open skies agreements that contain all the same articles; it is really the language in the sections dealing with fares, capacity and destinations that the laissez faire attributes of open skies differentiates the two types of bilateral agreements.

The United States undertook a major review of its domestic airline and aviation policy and enacted the Airline Deregulation Act in 1978 which eliminated the regulation of fares, routes and schedules in domestic markets. The U.S. saw the success of domestic deregulation and wanted a similar free market approach to international aviation; however, international services were regulated by complicated bilaterals. A change in those bilaterals required approval by foreign nations, and thus the U.S. could not unilaterally impose its will. The U.S. policy was to seek like-minded countries, such as the Netherlands and later the U.K., and to put in place agreements which provided a greater role for the market in making decisions on fares, capacity, etc. Eventually, this process resulted in an archetypical open-skies agreement, with the U.S. seeking to sign such agreements with as many nations as possible, eventually

1 Cambon, J. & von Jagow, "Exchange of Notes between France and Germany Concerning Aerial Navigation." American Journal of International Law, Vol. 8, No. 3, July, 1914, pp. 214-217.

squeezing reluctant trading partners into an open regime. The fundamental principles underlying open-skies agreements and the key provisions included in such agreements are discussed in the next section.

2.2 Major Provisions of Open Skies Agreements

This progressive concept of open-skies agreements pioneered by the United States eliminated all the complicated language and rules of the typical bilateral ASA and replaced it with simple prose giving the two countries' airlines the right to fly where and when they want between the two nations (and beyond) and to set their own fares accordingly.[2]

The first formal move toward international open skies occurred in 1979 with the U.S. International Air Service and Competition Act. While the success of this initiative was limited, the liberal thinking it embodied was revolutionary in the regulation-heavy world of international civil aviation at that time. It wasn't until 1992 that the U.S. signed its first true open skies agreement with the Netherlands, a watershed event in the move to open skies. Shortly thereafter, Northwest Airlines and KLM applied for and received antitrust immunity, and many of today's industry standards in international cooperation were established. The Netherlands was the first major country, albeit small, to accept an open skies agreement with the U.S., and it opened the door for many other European and Asian countries to renegotiate their bilaterals with the U.S. and replace them with the open skies model. The U.S.-Netherlands open skies treaty was notable not only for deregulation of the market, but also in that it enabled a major alliance between carriers of different countries. The nexus of ASAs and Alliances was created here.

Today, the U.S. has entered into 113 open skies agreements with other nations. In addition, other countries, most notably the member states of the European Union, have embraced the open-skies concept, creating an open market in Europe and open skies bilaterals with a number of other nations. New Zealand, Singapore and Brunei have taken open skies furthest, codifying the principle in a multilateral agreement (MALIAT) that grants signatories extensive freedoms of the air.[3]

A "model" U.S. open-skies agreement consists of 17 articles, covering the same scope as the conventional bilateral ASA that predated open skies. The model agreement covers both passenger and cargo air transportation and includes the following subjects:

- *Definitions* – clarifies key terms in the agreement. This is a standard section in both types of air service agreements, open skies and pre-open skies.
- *Grant of Rights* – provides routes, destinations, intermediate points, beyond points, etc. This section differs from previous bilaterals because it provides almost complete freedom for the airlines to fly to and from where they want in another nation, stopping where they want (e.g., intermediate points), and flying beyond the country, to a third nation, if desired, but stopping short of cabotage.

2 It is recognized that other nations also pursued open skies type of agreements, such as that between the U.K. and the Netherlands. Individual countries such as Chile and Singapore were also seeking more open regimes.

3 Multilateral Agreement on the Liberalisation of International Air Transport. New Zealand is the depository state for the agreement.

- *Authorization* – provides each nation party to the agreement with the ability and oversight to enforce the agreement and grant traffic rights based on the appropriate nationality of the airline (typically must be vested in one party to the agreement or the other, meets normal laws and regulations for international air transport and meets standard safety and security standards set out in later articles of the agreement). This section did not change much from pre-open skies bilaterals.

- *Revocation of Authorization* – provides each nation party to the agreement with the ability to remove traffic rights from an operating carrier should they fail to meet the standards from the previous section on Authorization. This section has not changed much from previous open-skies bilaterals.

- *Application of Laws* – clarifies which country's laws apply to the operation of the aircraft when it is in one country or the other. This has remained fairly consistent with earlier bilaterals.

- *Safety* – recognizes the aviation safety authorities in each country and grants them the right to certify the safety standards of their respective airlines, and that their airlines at minimum meet ICAO standards. Should airlines not meet safety standards, it provides the ability for parties to suspend, limit, or terminate traffic rights of the airline found not to be in compliance. This section has remained consistent in open skies agreements.

- *Aviation Security* — enforces international standards to prevent terrorism, hijackings, sabotage and other acts compromising aviation security. This language is fairly consistent with pre-open skies agreements and is almost universally accepted.

- *Commercial Opportunities* — provides for the ability of each country's airlines to establish operations in the territory of the other country. This includes opening offices, bringing in personnel and equipment, ground handling, establishing sales, repatriation of revenues and payment of expenses in local currency. Importantly for alliances, the Commercial Opportunities section also covers the possibility of code sharing with other airlines or surface transportation providers (e.g., buses or trains) of either party and/or with airlines from a third country. Although most of the commercial opportunities were standard from previous agreements, the establishment of language providing for code-sharing opportunities in the 90s agreements was a result and a driver of the benefits that can be realized through alliances.

- *Custom Duties and Charges* — exempts airlines from taxes, custom duties and other charges on all types of equipment, fuel, aircraft stores, catering items, etc., that are brought into the "foreign" country. This language was fairly standard in agreements before open-skies.

- *User Charges* — provides equal treatment for airlines of both countries for costs and expenses related to aviation. This insures that airlines from both countries are charged the same amounts for the same things in their respective countries. Hence, the home country of one airline cannot charge the foreign airline usurious rates for things without charging the same for its home carrier. This reciprocal treatment for the parties' airlines was standard prior to open-skies as well.

- *Fair Competition* — establishes the right of each country's airline to operate in another country without fear of any interference in its ability to compete. This section also establishes the rights of each party to operate unlimited frequencies and capacity with the resulting traffic volume, without reprisal from the other country to limit it in any way. While fair competition has been in many agreements over the years, the language providing for no limitations on operations, frequencies, capacity and/or traffic is standard to open skies and has facilitated growth in many markets and facilitated the relationships that have been forged in alliances.

- *Pricing* — allows each party's airlines to set their own prices without government interference and based solely on free market considerations. This section has changed greatly from many pre-open skies agreements, which often regulated the fares in their markets substantially. In addition, airlines previously had to file fares with the foreign government, and these fares could be disapproved, leaving the airline with few choices if they wanted to serve that market. Open skies eliminated these practices and allowed airlines to set the fares according to marketplace norms. While not directly facilitating alliances, it does provide freedom for the alliance partners to compete with other airlines on price.

- *Consultation* — provides an avenue for either country to formally ask the other country to discuss an issue related to the bilateral agreement. This is similar to earlier accords.

- *Settlement of Disputes* — provides a path for arbitration and final resolution should the issue in "Consultations" not be resolved with talks between the countries. This housekeeping section appeared in many earlier ASAs.

- *Termination* — allows either country to terminate the bilateral between their nations should the issues raised in "Consultations" not be resolved in "Settlement of Disputes". Countries might also terminate their ASA for other reasons including succession by a new bilateral, war, severe economic duress, etc.

- *Registration with ICAO* – provides for mutual agreement between each country that this document will be registered with ICAO, the International Civil Aviation Organization. This is more housekeeping in nature, recognizing the international body, ICAO, which more than likely oversaw their previous documents anyway. This article was frequently included in pre-open skies bilaterals.

- *Entry into Force* – indicates the date on which the open skies agreement goes into effect. This section is virtually the same as earlier agreements.

The definition of open skies for routes under the U.S. agreement with the Netherlands, the first open skies agreement, and subsequently with all other open skies agreements, is for unlimited first through sixth freedoms for passengers and cargo, and with some countries (but not the Netherlands), open seventh freedoms for cargo (but not for passengers). It should be noted that generally sixth freedoms are not singled out in bilaterals; in fact they are rarely mentioned. Sixth freedoms flow from having open third, fourth, and fifth freedoms agreed with several countries. Airlines combine these rights to create a sixth freedom, the ability to pick up passengers in one country, bring them to your home country, and

provide a connecting flight to a third country. Open first through sixth freedoms gives airlines from the countries signatory to the agreement valuable flexibility in planning and operating their networks.[4]

2.3 Ownership and Control Provisions

Another area of utmost importance for both air service agreements and alliances is the language on ownership and control sections, which is most often found in the Definitions, Authorization, and/or Revocation of Authorization sections.

Both pre-open skies bilaterals and open skies agreements call for airlines operating international routes to have substantial ownership and effective control by nationals of its home country or by its home State. Each country determines the level of ownership it feels necessary to qualify one of its airlines for corporate citizenship; however, bilaterals do not specify a percentage.

United States

The US Government Accountability Office (GAO) has commented that historically, the reasons given as to why the U.S. has limited ownership and control of its airlines to U.S. citizens focus on four issues: 1) the protection of what was once a fledgling U.S. airline industry, 2) the regulation of international air service through bilateral agreements, 3) concern about allowing foreign aircraft access to U.S. air space, and 4) military reliance on civilian airlines to supplement airlift capacity.[5] Labour protection is also often cited as a de facto motivation for limits on foreign ownership. The reasons for keeping restrictions on foreign ownership and control might have changed over the years, but the U.S. still prefers for ownership and control of U.S. airlines to be in U.S. hands, and for foreign airlines to be controlled only by nationals of the country at the other end of an international route.

In the United States, the ownership and control protocol for U.S. domiciled carriers is determined by federal statutes. Originally set in 1926 with the *Air Commerce Act* of that year, U.S. ownership had to be at least 51% of voting stock. Also, 66 and two-thirds or more of the board of directors had to be U.S. citizens, and the president of the airline had to be a U.S. citizen. All of these requirements had to be met for the airline to be given U.S. domiciliation, usually referred to as "citizenship". The *Civil Aeronautics Act* of 1938 increased the percentage of voting stock required to be in U.S. hands to 75% to qualify to be a U.S. airline. (This same act created the Civil Aeronautics Board (CAB) which would regulate carriers, routes, capacity, and fares for domestic and international airlines for decades to come.) The Chicago Convention recognized and defined airline ownership and its bestowal of nationality on an airline, accepting the U.S. definition of what constituted a U.S. airline. The *Federal Aviation Act* of 1958 redefined U.S. ownership requirements or more precisely articulated the control requirements for U.S. "citizenship". Beginning in 1958, airlines must have 75% of their stock in U.S. hands; and a new requirement of obtaining a certificate of public convenience and necessity was added. The latter gave the DOT (formerly the CAB) the authority to measure citizenship and control requirements of various airlines, so they could be certified or not for domestic and/or international operations.[6]

4 We note that some countries in some cases have sought to limit sixth freedom traffic by restricting third and fourth freedom rights. Canada is an example, which has a restrictive ASA with the UAE and tries to confine the capacity of UAE carriers to what third/fourth freedom traffic alone could justify.

5 General Accountability Office (2003), Foreign Investments in U.S. Airlines, GAO-04-34R.

6 Furlan, Christopher , "Foreign Ownership and Control Restrictions in the United States Airlines, Barrier to Mergers and Restructurings", University of Miami School of Law.

Current statutory requirements for U.S. ownership and control are that an airline be 75% owned and controlled by U.S. citizens or corporate interests. A citizen is defined by the statute as a) an individual U.S. citizen, b) a partnership each of whose partners is a U.S. citizen, or c) a corporation or association organized under the laws of the U.S.; whereby, the president and two-thirds of the directors are U.S. citizens, and at least 75% of the voting interest is owned and controlled by U.S. citizens.[7]

Europe

Ownership laws in Europe have evolved with the development of the European Union (EU) and its predecessors the European Economic Community and the European Community. In the early days of the EU, each nation controlled its own bilaterals and its laws on ownership and control of its airlines. As the EU began to create pan-European economic policy, aviation was subjected to European, rather than national, ownership provisions. Beginning in the late 1980s, the EU passed three measures to create a single aviation market for all of its member states. The first measure, passed in 1987, addressed fares and limited each government's ability to regulate fares. It also allowed some airlines to begin sharing capacity on routes. In 1990, the second round provided even more flexibility on fares and capacity sharing and eliminated capacity controls on routes from carriers' home countries to other EU nations. [8] Finally, in 1993, the "third package" opened up the EU aviation market considerably. The third package allowed any EU-based airline to operate services anywhere within the EU, and in 1997, this was extended to provide for cabotage, defined in this situation as flights within another member state's sovereign territory. The third package allowed airlines to fly anywhere they wanted in the EU (and later, via treaties, in Iceland, Norway, and Switzerland) and to establish their own capacity and fares.

The third package also standardized ownership restrictions among all EU nations to allow "majority ownership and control" by EU nationals of any nation. EU law requires that each member state satisfy itself that an applicant/operator of an operating license demonstrates that it is majority owned and effectively controlled by qualifying nationals, including shareholders and any other party that can exercise de facto control. Unlike the U.S., the EU does not address a specific percentage of permitted stock and/or the citizenship of the directors of the board.

As in the U.S., effective control can be difficult for EU regulators to determine. The EU looks at voting stock, assessment of the beneficial owners of the company, composition of its board and directors powers. EU regulators might also look at non-EU entities who exercise influence over airlines through provision of services at non-market prices and/or who would have the power of approval or veto over an airline's actions. [9]

Elsewhere, ownership requirements vary by country as shown below in Table 2.1 for selected nations.

7 U.S. Code, 49 U.S.C. § 40102(a)(15).

8 European Commission (2012), Air Market Integration History. Retrieved from www.ec.europa.eu.

9 Civil Aviation Authority (October 2006), "Ownership and Control Liberalisation: A Discussion Paper", CAP 769.

Table 2.1. **Ownership and Control Requirements in Selected Countries (current as of 2001)**

Country	Maximum % foreign ownership limits Domestic airlines	International airlines
Australia	100%	49%
Brazil	20% of voting equity	20% of voting equity
Canada	25% of voting equity (maximum single holding in Air Canada by any investor is limited to 15%)	25% of voting equity (maximum single holding in Air Canada by any investor is limited to 15%)
Chile	Designation as a Chilean carrier has principal place of business as the only requirement	Designation as a Chilean carrier has principal place of business as the only requirement
China	35%	35%
Colombia	40%	40%
India	40% for privately-owned domestic carriers	26% for Air India
Indonesia	Requires airlines designated under bilateral agreements to be substantially owned and effectively controlled by the other party	Requires airlines designated under bilateral agreements to be substantially owned and effectively controlled by the other party
Israel	34%	34%
Japan	One third	One third
Kenya	49%	49%
Korea	50%	50%
Malaysia	45% for Malaysia Airlines, but the maximum holding by any single foreign entity is limited to 20% 30% for other airlines	45% for Malaysia Airlines, but the maximum holding by any single foreign entity is limited to 20% 30% for other airlines
Mauritius	40%	40%
New Zealand	100%	49%
Peru	49%	49%
Philippines	40%	40%
Singapore	N/A	None
Taiwan	One third	One third
Thailand	30%	30%
U.S.	25% of voting equity	25% of voting equity

Source: Chang, Y.C. and Williams, G. (2001) "Changing the rules – amending the Nationality clauses in air service agreements". Journal of Air Transport Management, 7(4), pp. 207-216.

Both the ownership and the control requirements have been tested a number of times by a number of different situations. Over the years ownership and control have become much more difficult to ascertain as airlines and businesses have become more global. In addition, financial instruments used to finance some airline activities have also become greatly complicated, and their susceptibility to foreign investment might benignly cause an airline to exceed the maximum allowable foreign ownership. Hence, the U.S. DOT has steadfastly monitored all facets of airline ownership and control to insure each U.S. airline is, in fact, owned and controlled by the appropriate percentages of American participation. Some of the more notable instances include British Airways-US Airways, DHL, Texas International and Virgin America.

British Airways-US Air

In the early 1990s, a number of U.S. airlines had failed and/or were in danger of failing due to rising fuel costs and slumping traffic attributable to the first Gulf war. U.S. airlines were looking for investments to shore up their sagging balance sheets; however, U.S. rules on foreign ownership stopped many offshore investors from pursuing an investment in a U.S. carrier.

In 1993, British Airways expressed an interest to invest $750 million into USAir (later US Airways) for a 44% share of the airline and 21% of its voting stock. As part of this investment, British Airways would have four appointments out of 16 on the US Air board of directors. U.S. regulators were disturbed by not only the ownership provisions, but also that the four British-appointed directors could veto decisions made by other directors in the areas of executive hiring, planning, marketing, and compensation.[10]

The U.S. might have used this as leverage for open skies and greater access to Heathrow for other carriers, but the UK held firm, and U.S. opponents fought the proposal bitterly. As a result, British Airways withdrew its application from the DOT and changed the terms of its investment in US Air. They reduced their investment from $750 million to $300 million which gave them a 19.9% share of US Air and three seats on the board. In addition, they expressed their interest in investing another $450 million over time to bring their ownership to the same 44% share that they had initially wanted. This modification of British Airways' investment satisfied DOT regulators that US Air remained with American ownership and control.[11]

DHL

DHL is one of the more complicated examples of the U.S. litmus test for ownership and control. DHL was set up in the late 1960s as a courier service between California and Hawaii. All three of the namesake owners were U.S. citizens, the president was an American, and stock ownership of the cargo air carrier was 100% American. However, after the death of one of its founders, Larry Hillblom, the ownership structure began to change and Deutsche Post, a German company, began to accumulate shares in the company. Finally, in 2002, Deutsche Post acquired enough to become a majority stakeholder with 51% ownership. However, to accommodate U.S. law and retain DHL Airlines' American citizenship, 75% of the stock and 55% of total equity was sold to a U.S. citizen. The remaining 45% of total equity and 25% of the stock was retained by DHL Holdings, the German holding company. DHL's primary competitors in the U.S., FedEx and UPS, complained strenuously about this suspicious arrangement.

Because of the opposition, DHL changed its ownership structure. The American citizen holding 75% of the stock and 55% of the total equity sold his holdings to an outside investment group, all of whom were also American citizens and mostly backed by a loan from Boeing Capital, a U.S. corporation. Most of DHL's air carrier business was to perform cargo flying on behalf of one of its sister units, DHL Worldwide Express under the umbrella of the German holding company. This new arrangement raised a number of legal issues for DHL which opponents tried to use to prove that the airline was under foreign control. However, the administrative law judge repeatedly ruled in DHL's favour. First, he found that even though the German parent company controlled the transaction and the restructuring, there was no proof that they controlled the airline. Second, the judge found that even though the restructuring was extremely favourable to the parties, this did not provide any continuing control over the airline. Third, although Deutsche Post guaranteed most of the loan from Boeing, the judge did not find any proof that this provided Deutsche Post with any leverage over the airline as the money was already owed. Fourth, UPS and FedEx argued that DHL Worldwide Express, a German entity could threaten to cancel its contract with DHL Airlines to exercise control over it. However, the judge ruled that the two companies did so much business together, that it would be irresponsible, commercially reckless, and unlikely to happen because the two companies were so closely intertwined. This led to the final argument that because the two businesses are so closely associated, that DHL Worldwide Express does exercise control over DHL Airlines. The judge looked at this closely and ruled that although the airline does most of its

10 New York Times, "Will British Airways Control USAir", 17 March 1993.

11 Armstrong, J.M. & De Wolf, R. (1993, January 22). USAir, Brits Cut a $300m Deal. Philadelphia Inquirer, January 22, 1993.

business with its German sister, it has the option to seek third party contracts. Whether it exercised this option or not was another matter. The U.S. airline made its own investment decisions, had control over its employees and their compensation, and created its own budgets and financial statements.[12] The U.S. found DHL Airlines to be a U.S. citizen under federal statutes.

Texas International

Fresh on the heels of the 1978 *Airline Deregulation Act*, some of the smaller regional airlines began to consolidate to create networks that were larger, giving them more national impact. Texas International, run by Frank Lorenzo, began acquiring shares in National Airlines in 1979 with the intent to take over the airline. Accordingly, Texas International applied with the CAB to acquire National Airlines in full. Up to that point in time, Texas International had been considered a U.S. airline with 75% or more of stock in U.S. hands, an American president, and a board that was completely American. However, in review of Texas International's merger application, the CAB took exception to Texas International's convertible debentures. Texas International had sold enough of this type of financial instrument to foreign interests that, if exercised, would compromise Texas International's U.S. citizenship. In response to the CAB inquiry, Texas International indicated that it was highly unlikely for economic reasons that foreign investors would convert their debt to equity in sufficient numbers to tip the balance of non-U.S. citizens owning more than 25% of the airline. In addition, accounting practices and the Foreign Trade Register could closely monitor the appropriate percentages to insure that 25% was not exceeded. The CAB accepted these arguments and continued to hold Texas International as a U.S. citizen with the caveat that the airline would notify the CAB if more than 1% of the debentures were converted at any one time in order to protect the airline's citizenship. In any case, the National Airlines acquisition was broken up by Pan Am, who made a competing and successful offer for National.[13]

Virgin America

Virgin America was the brainchild of the successful British entrepreneur, Richard Branson. Branson first started Virgin Atlantic, a British long haul airline, in 1984 to fly a lone flight between London's Gatwick and New York's JFK airports. The airline was successful in its endeavours and has expanded its network around the globe. Seeing the success of Virgin Atlantic, Branson and his team helped to create a spin-off airline in Australia, Virgin Australia (formerly Virgin Blue). Virgin Australia soon rocketed to be the second largest airline in Australia after the collapse of Ansett Australia in 2001. Given his success in Australia, Branson began to think about starting an airline in the U.S., but was stymied by U.S. ownership and control laws.

Branson was cognizant of U.S. ownership laws and attempted to put together an investment group to abide by U.S. laws. However, the DOT still found that Virgin America lacked what it took to qualify for U.S. citizenship. Specifically, the DOT found that Virgin America's ownership was tainted with a web of Cayman Island entities and foreign limited partnerships owning more than 25% of the airline. In addition, Virgin Group's leasing of the trademarks contained some unique conditions and remedies that effectively gave Virgin Group, the British holding company for Branson's other interests, undue control over Virgin America's decision-making. Finally, the DOT found that the president of Virgin America while a U.S. citizen, had worked for Branson prior to Virgin America's establishment and had loyalty to

12 Furlan, Christopher , "Foreign Ownership and Control Restrictions in the United States Airlines, Barrier to Mergers and Restructurings", University of Miami School of Law.

13 Furlan, op. cit. Furlan, Christopher , "Foreign Ownership and Control Restrictions in the United States Airlines, Barrier to Mergers and Restructurings", University of Miami School of Law.

"British interests".[14] Hence, the DOT initially rebuffed Virgin America from its bid to establish U.S. domestic flights.

Virgin America reorganized its capital structure to reduce the foreign interests and raised new capital, including from its directors, all of whom were American. It replaced its president and re-worked the trademark licenses to appease the DOT that it was, in fact, American owned and controlled. In the end, the DOT, satisfied with Virgin America's remedies, did grant Virgin America a certificate to fly domestically.

2.4 Summary of Selected, Trend Changing U.S. ASAs

Although airline cooperation in one form or another stretches back decades, including co-branding and interline relationships, the 1992 signing of the open skies agreement between the U.S. and the Netherlands heralded a new age of airline alliances which has encompassed many countries. Some examples of various countries' paths to open skies agreements are discussed in this section.

Netherlands – the genesis of the ASA-Alliance Nexus

In 1989, Al Checchi and Gary Wilson were looking for investors to help them with the leveraged buyout of Northwest Airlines. KLM joined them and bought a 20% stake for US$100 million. The early years of the Northwest/KLM relationship were spent looking for ways for the two airlines to cooperate. Northwest's hubs in Minneapolis, Memphis, and Detroit were not traditionally thought of as transatlantic gateways, and Amsterdam, although significant, was always in the shadows of London, Paris, and Frankfurt. Northwest was somewhat distracted in this period due to financial troubles stemming from excessive debt from their leveraged buyout. Although the airlines did find some things to cooperate on, they felt that there was something much bigger that they could do together. Both airlines were looking to increase the size and importance of their medium-size airlines. An idea formed at Northwest that the two airlines could improve their transatlantic operations by merging them. It was a novel concept that had not really been attempted by two airlines from different countries across the Atlantic. However, the existing U.S-Netherlands bilateral did not provide for the sort of cooperation envisioned by the Northwest executives. Northwest and KLM went to the DOT as well as the Dutch government and laid out an idea that would become the model for open skies. The DOT liked the idea because it was a way to expand the highly successful deregulation of domestic airlines to international operations as well.

Building upon open skies, Northwest and KLM argued that if there were no barriers to entry including frequencies, routes, designations, pricing, etc., why could they not work together as "one airline" without actually merging their entire airlines. However, even with open skies, if they attempted to undertake any of this without some waiver from the governments of both countries, they would be committing antitrust violations. Hence, they convinced the governments that open skies could be the quid pro quo for antitrust immunity, a key requirement of their partnership and those to come.

The United States government endured a great deal of criticism for contemplating and consummating an open skies agreement with Netherlands. Traditional thinking held that the U.S. should not trade complete access to the large U.S. market in exchange for essentially one point, Amsterdam. However, the U.S. government saw aviation as an extension of U.S. industrial policy, which advocated free trade. Hence, the aviation equivalent of free trade is open skies. Therefore, the U.S. government did not see U.S. aviation in a vacuum; it saw it as part of the larger policy of the nation and believed that enhanced air links would lead to greater trade between the nations. Thus, on October 14, 1992, the U.S. formally

14 Travel Weekly, "DOT ruling says Virgin America is a faux American", 1 January 2007.

agreed to amend the 1957 air service agreement to create open skies with the Kingdom of the Netherlands.[15] The U.S. and the Netherlands agreed to open first through sixth freedoms for passengers and cargo, but the two nations have never agreed to open seventh rights for cargo.

The Dutch agreement, along with 27 other European bilaterals with the U.S., was replaced in 2007, with a multilateral agreement that codified open skies for the U.S. and the 27 nations comprising the European Union at that time. The new 2007 European Union multilateral embraced the same open skies principles found in the first open skies agreement with the Netherlands and subsequent agreements with many other European nations. The new EU accord supported open route access for first through sixth freedoms for all member nations; however, each EU nation retained the ability to allow seventh freedoms for cargo at its own discretion.

Immediately following the open skies agreement in 1992, Northwest and KLM filed for antitrust immunity (ATI) with the Department of Transportation. Their application immediately came under fire from many of their competitors who argued that the agreement had not contemplated this type of operation. In fact, it had; the DOT ruled in favour of Northwest/KLM in 1993 by granting them anti-trust immunity.

In its authorization of the first antitrust immunity, the DOT explained that the bilateral was negotiated with the intent in both nations of creating competitive open skies. While antitrust immunity is not spelled out in the bilateral, it is keeping within the spirit of the bilateral. Hence, if DoT turned down the application for ATI by KLM and Northwest, it would not be in keeping with the intent of open skies. This thinking has prevailed over every other ATI application since the first one between KLM and Northwest.

The two airlines built upon their growing relationship by using the open skies agreement to freely discuss and set fares, capacity and schedules, destinations, routes and many other things among themselves, acting as one airline. This resulted in one of the most successful examples of cooperation in aviation history. The United States deflected criticism of trading complete U.S. access to such a small country by showing that open skies and anti-trust immunity could lead to enormous benefits for the passengers, the signatory nations and the airlines. Although the U.S.-Netherlands agreement was the first open skies agreement, many more have followed, resulting in numerous alliances being granted antitrust immunity by regulators, many to the very same airlines who argued against Northwest/KLM.

Germany

After Northwest and KLM launched their industry-leading partnership in 1993 with antitrust immunity, their share of the transatlantic rose to 12% in 1996 from 7% in 1991, representing 30% of KLM's profits.[16] Other airlines saw the benefits that could be derived from a close relationship forged with antitrust immunity. A number of airlines, both in the U.S. and abroad, pressed their respective governments to pursue open skies agreements with the U.S., the acknowledged prerequisite for antitrust immunity. United and Lufthansa, not content to lose market share to Northwest and KLM, were the next duo that expressed an interest in "operating like one airline", in 1996.

Germany's bilateral with the U.S. favoured the U.S. because it was negotiated in the aftermath of World War II. Following German reunification in 1990, there was German interest in making the agreement fair

15 U.S. Department of State, Bilateral Treaties in Force, 1 November 2007.

16 Fortune, "The Alliance from Hell: Norwest and KLM. The Marriage of these two Airlines Mints Money, but towering Egos and a Bitter Battle for Power May Spoil It All", 24 June 1996.

to both countries and bringing Germany up to "equal status" with the U.S. against this backdrop, Lufthansa and United wanted to form an alliance similar to that of Northwest and KLM; however, the countries had to agree to open skies first. This undertaking was not as difficult as the Netherlands had been. The Dutch treaty had broken down opposition to open skies and had served as a "laboratory" for the world to see how open skies, and for that matter, antitrust immunity would work. Hence, the U.S.-German negotiations were not a long, drawn-out affair, with a new bilateral agreed to in February. 1996. The U.S.- Germany bilateral and the successor multilateral with the EU provide for open first through sixth freedoms, and Germany includes open seventh freedoms for cargo as well.

Although Lufthansa and United had already established a relationship including frequent flyer reciprocity and code-sharing, the pair filed for antitrust immunity the very same month the talks were concluded. The DOT immunised this relationship in May 1996. The DOT explained that, although the bilateral doesn't require them to approve this type of alliance, it felt that these types of alliances fostered greater competition and thus more benefits for consumers, from lower prices to a greater choice of flight options. Lufthansa and United created a joint venture which went by the name of Atlantic Plus and treated their transatlantic operations as if they had been merged. As the Star Alliance grew with more transatlantic carriers, several of them, including TAP, SAS, Air Canada, Austrian, bmi, and Swiss were added to the transatlantic antitrust immunity group, but not to Atlantic Plus, the immunised joint venture. In 2008, Continental decided to leave SkyTeam and join the Star Alliance. This action caused a shift in Atlantic Plus thinking, and United and Lufthansa decided to expand it to include Continental and Air Canada, and it was re-named A++ (Atlantic Plus Plus). The four and subsequently three carriers (Continental and United merged) sought antitrust immunity to operate Atlantic Plus Plus and received it in 2009. This immunised relationship among the three carriers allowed them to share revenues and costs across the Atlantic and operate under the principle of "metal neutrality". In other words, they are ideally blind to what airline is operating a route; they allocate aircraft as if they were one airline. Similarly, customers are sold tickets by one airline regardless of whether they are going to fly on another. In each decision related to transatlantic ATI and an immunised relationship, the DOT underlined that the home countries of the foreign airlines had an open skies agreement with the United States.

France

Following on the heels of the Netherlands, Germany, and many others, France began to think about open skies in 1998. At that time, Air France did not have a major U.S. partner; hence the motivation that KLM and Lufthansa had was lacking. While Air France and Delta had been talking about a partnership, it wasn't until 1999, that they announced an alliance. (Interestingly, Delta was busy prior to 1998 with relationships with Sabena, Swissair, and Austrian, and had been instrumental in pushing for open skies with their respective countries as well as receiving antitrust immunity with each of them across the Atlantic. Nonetheless, the French began conversations about open skies in 1998 and concluded an agreement which was intended to lead to open skies in 2003. Delta and Air France's relationship in 1999 sped up the open skies process, and France agreed to full open skies in 2001. Following the formation of SkyTeam in 2000, Air France and Delta (as well as Alitalia and Czech Airlines) applied for antitrust immunity and received approval for their collaboration in 2001. Again, the DOT ruled that their decision could only take place with open skies agreements in place in each of the participating airlines' home countries. In the ATI agreement for Air France, Alitalia, Czech, and Delta, the DOT explained that open skies promotes competition which can lead to better prices and better quality of airline service. Like its other European neighbours, France agreed to open first through sixth freedoms with the U.S., and it also allows open seventh freedoms for cargo.

United Kingdom

The United States and the United Kingdom signed one of the earlier bilaterals in 1946 known as the Bermuda Agreement (and later Bermuda I). The agreement hammered out a number of tenets basic to U.S. (and many other country) bilaterals including the definition of third, fourth, and fifth freedoms. The U.S. used the Bermuda-style agreement as a model for many air service agreements that it signed with other nations. Although the Bermuda agreement was ground-breaking in terms of definitions and concepts, it was not an open skies agreement.

After 30 years of Bermuda I, the British unilaterally terminated the agreement and negotiated a new agreement with the U.S., which came to be known as Bermuda II. Bermuda II was much more restrictive than Bermuda I, and it represented Britain's efforts to "level the playing field" (level the outcome) between U.S. carriers, who were carrying the majority of transatlantic traffic, and British carriers. Bermuda II established a number of defined gateways; prohibited new entry at London Heathrow, aside from incumbents TWA and Pan Am; opened up London's Gatwick Airport to new entrants; and established a new, regulated pricing system (it had been up to the airlines in Bermuda I). In the ensuing years, TWA and Pan Am sold their London routes to American and United respectively, British Airways was privatized, and Virgin Atlantic was allowed to operate from Heathrow. British airlines gained market share to exceed the U.S. and, for many years, the British had little incentive to agree to an open skies agreement.

However, American Airlines and British Airways were not silent or inactive this whole time as they watched their major competitors link up with antitrust immunity. The two transatlantic heavyweights had first created a loose alliance with frequent flyer reciprocity and code-sharing in 1996. Since 1997, the two major airlines had been trying to create an immunised alliance; however, the lack of an open skies agreement between the United States and the United Kingdom had repeatedly hampered the efforts of the two airlines to receive the same regulatory approval that their major competitors in the U.S. and in Europe had already received. American and British Airways applied to U.S. regulators a number of times, but against stiff arguments from a number of competing airlines, the U.S. turned them down each time; the problem each time was Heathrow slots and open skies. Finally, following the U.S. and the EU's (of which the UK is a member) implementation of open skies in 2008, which for the UK included open first through sixth freedoms but not open seventh freedoms for cargo, American and British Airways were granted the ability to more closely cooperate on the North Atlantic at the beginning of 2010. Having learned from more than a decade of immunized relationships, the DOT concluded that ATI for American and British Airways would lead to better fares, new routes, additional capacity on existing routes, better schedules, reduced travel times, and better product and service quality. A key part of the open skies agreement was also the surrendering of four pairs of slots at Heathrow to ensure competitive entry; two pairs were earmarked for Boston service and the other two pairs were to be flexible for any U.S.-Heathrow service.

This case is important as it emphasises that Alliance approval requires open access to competitors, and access involves more than the route rights and capacity provisions of ASAs. Access to congested airports is also important in alliance approval.

Canada

The United States and Canada represent the largest air market between two nations in the world and has for many years. However, prior to 1995, the two countries allowed a restrictive agreement to closely define what airlines in each country could do. Only certain airlines could fly certain routes at certain rates at certain capacity levels. Routes often did not reflect market reality. As an example, the two national

capitals were not linked, and Vancouver, the 2nd largest market in Canada, was allowed only one route to the U.S. east of the Rocky Mountains, and that route could only be operated by a U.S. carrier. Carriers were often required to route planes through smaller cities because routes from larger cities were not defined in the bilateral. This was likely due to range limitations on early 1930s and 1940s aircraft which flew the routes; hence, Buffalo, Syracuse, and Spokane, among others, were permitted routes to Canada, but Houston, Dallas, Atlanta and others would have to stop en route, regardless of a modern aircraft's range capability. The prevailing agreement restricted most routes to a single carrier from each nation and imposed government overview of pricing as well.

This type of heavy regulation on airlines flew in the face of the recently-passed NAFTA trade agreement which provided for free trade between Canada, Mexico, and the U.S. It also inhibited the growth of traffic between the nations. In the years prior to the open skies agreement, traffic growth between the U.S. and Canada was less than 1%, and capacity growth was 3%.[17] This contrasted sharply with the goals and the vision of NAFTA for trade between the nations. Hence, the two countries, after repeated attempts, finally came to the negotiating table in earnest early in 1994 to discuss liberalisation of air service.

Canada and the U.S were both looking for open skies in principle; however, Canada and its airlines came to the table apprehensive of the resulting U.S. capacity onslaught if the U.S. was granted open skies outright from the very beginning. After a number of rounds of discussions, the U.S. and Canada agreed to a phased "open skies" agreement. It was agreed that Canadian airlines would be given a three year head start to allow them to establish themselves in markets in advance of the entry of U.S. airlines. Canadian airlines were also given the rights and the slots to begin service between Washington Reagan National airport and Canada. In reciprocity, U.S. airlines were given open skies to all Canadian markets, with the exception of Montreal, Toronto, and Vancouver. These were to be phased in over the three year time period, with Montreal and Vancouver restricted for two years, and Toronto for the full three years. In the intervening years, limited routes were granted to each of these restricted cities, but they didn't open up in full until three years had elapsed. This phased approach was a compromise to provide Canada and its airlines breathing room before U.S. competition, and it gave the U.S. the roadmap to an open skies agreement that it was seeking.

Although the 1995 Canada-U.S. bilateral was perceived to be an open skies agreement when it was ratified in 1995, it did not contain all the elements of a modern day open skies agreement. While it eliminated designations, route descriptions, capacity descriptions, and pricing controls, it did not provide for full fifth freedoms for passenger services. The 1995 agreement provided both nations with open first, second, third and fourth freedom rights, but very limited 5th freedoms - just two specific routes for Canadian carriers (Australia and the Caribbean/Latin America) and one for U.S. carriers (Europe via Gander), both of which were related more to long distances than anything else. It also fell short on cargo issues, specifically cargo co-terminalisation and seventh freedoms.

The limitations on fifth freedoms did not preclude United and Air Canada and other airlines from realizing limited antitrust immunity in their transborder relationships. In 1996, shortly after the treaty was put in place, United and Air Canada filed for a limited form of antitrust immunity. The U.S.-Canada bilateral and the antitrust immunity ultimately granted to Air Canada and United were unique. Unlike almost every other country and alliance that has been granted antitrust immunity, the U.S. did not have full open skies with Canada. However, the DOT carefully repeated in the final order for ATI for the Air Canada/United alliance that they would approve immunity because Canada was moving to open skies

17 Canadian Airport Council, "The Next Stage for Canada-U.S. Air Transportation: Open Skies or Beyond?"

(with the exception of the 5th freedoms, which wouldn't be addressed until 2007). Although some cities in Canada were temporarily restricted for new U.S. entry, and routes between the alliance carriers' hubs were 'carved out' of the antitrust immunity authorisation (i.e. excluded from it), the DOT granted the ATI application. The phased approach to provide free entry to Canada's three largest cities provided the DOT with the "automaticity and short period" that it felt comfortable with. They found that Canada was moving in the right direction and would soon have open skies.

In their comments approving antitrust immunity in 1997, the DOT also differentiated Canada and the UK, by saying that the UK did not have an open skies agreement and London Heathrow's limited slot availability represented a barrier to entry. Hence, they could not approve antitrust immunity for American and British Airways, but they could for Air Canada and United since Canada had open skies and lower barriers to entry.[18]

After a decade of successful operations between the nations which saw traffic rise over 30% to 18.5 million passengers,[19] the U.S. and Canada reconvened in 2005 to work out remaining issues related to bringing the bilateral to full open skies. In 2005, negotiators from both countries agreed to the remaining items from 1995 which included fifth freedoms for passenger carriers, cargo co-terminalisation and seventh freedoms for freight transport. The 2005 agreement standardized the U.S-Canada agreement in relation to other open skies agreements and provided both nations with unlimited first through sixth freedoms, as well as seventh freedoms for cargo.[20]

The 2005 agreement did not make many changes to the 1995 agreement nor did it materially change the antitrust immunity that had been granted to Air Canada and United in 1997. However, in the wake of the 2005 accord and the Continental and United merger, Air Canada and United applied for an immunised joint venture, similar to the transatlantic joint venture (A++), to share costs and revenues on transborder flights. While never formally reviewed separately by the DOT, it was approved by the U.S. although not tacitly, under the broader immunised Atlantic alliance group of nine airlines which included Air Canada and United/Continental (and Lufthansa, bmi, LOT, Swiss, TAP, and Austrian). The Canadian Competition Bureau also reviewed the joint venture and came to a consent agreement with Air Canada and United which approved the relationship, but carved out fourteen routes including some from Calgary, Montreal, Ottawa, Toronto, and Vancouver. Although the two airlines could work together on all other trans-border routes in areas of pricing, scheduling, marketing, etc., they were prohibited from working together on the fourteen routes set aside to protect consumers.

Japan

While the United States and Europe quickly embraced the concept of open skies, nations in other parts of the world watched closely. While open skies agreements were signed elsewhere, there were not a great number of major alliances elsewhere looking for antitrust immunity. Although some countries did want antitrust immunity for their national carriers, it took a long time to convince these governments that the benefits of open skies were worth granting complete access to their markets. Japan had a long history of a very restrictive bilateral with the United States.

18 DOT-OST Order 97-9-21.

19 Canadian Airport Council, "The Next Stage for Canada-U.S. Air Transportation: Open Skies or Beyond?"

20 The Canadian air cargo industry strongly opposed seventh freedom and the cargo co-terminalisation provision that ultimately were included in the 2005 ASA. They feared the US cargo carriers would put them out of business. In the almost ten years since then, the US carriers have not exercised either their seventh freedom or co-terminalisation rights.

After World War II, the Japanese economy was devastated as were its airlines. Japan and the U.S. agreed to a bilateral which provided access for two airlines from each country with set frequencies, routes and extensive fifth freedom rights. The latter were necessary due to aircraft range issues at the time which precluded nonstop flights from the U.S. to a number of Asian cities and from Japan to a number of North and South American ones. In 1952, when the first post-war bilateral was signed, a trip between the U.S. and Japan required a four-stop flight between the United States and Tokyo. In addition, intra-Asian flights also required intermediate stops due to the short range of the aircraft of that day. Over time, Japan's economy and airlines flourished, and they were challenged, especially Japan Air Lines (JAL), by Northwest Orient's and Pan Am's ability to pick up traffic in Japan and transport them to Asian cities. Also, Northwest and Pan Am could pick up traffic throughout Asia and carry it via Tokyo back to the U.S. This represented a huge opportunity that Japan and its airlines felt should rightfully belong to them. Hence, Japan's policy was generally to maintain the restrictions on the rights of U.S. airlines.

A number of bilateral conferences came and went with U.S. airlines looking for additional opportunities to enter and/or expand service to Japan and its booming economy. Over time, a few more U.S. airlines were allowed to begin service to Japan, but these "non-incumbents" or "MOU carriers" (those carriers gaining rights from various memorandum of understandings signed between the nations in the 1980s to the present) did not have the fifth freedom privileges that Northwest Orient and Pan Am, known as "incumbents", did (as did JAL, the other incumbent). There were small openings in the U.S.-Japan bilateral to permit additional flights, but the frequencies, destinations, and designated airlines were highly restricted.

In 1998, the U.S. pressed hard for an open skies agreement similar to the Dutch treaty; however, JAL did not have a close partner like KLM did and had no interest in opening the market even more to U.S. carriers. In 1998, only the Star Alliance had formed; (oneworld and SkyTeam were formed in 1999 and 2000 respectively). JAL and All Nippon (ANA) had yet to join a global alliance. ANA had some relationships with some of the Star airlines and was starting to talk to United about a relationship. JAL and American were talking about building their frequent flyer agreement into a broader relationship to include code-sharing, lounge access, etc., but they had not completed their discussions.

Japan did not think it would gain anything from open skies when it was giving U.S. carriers even more access to Japan and Asia. In fact, in the 1998 talks, Japan was looking for equalization of rights between the countries because the 1952 agreement was skewed in favour of the U.S., given the prevailing political environment in 1952 after the war. Japan even explored whether U.S. cabotage might be considered as a trade-off for the extensive fifth freedoms that U.S. carriers enjoyed in Japan. The U.S. had never entertained cabotage rights for any nation or carrier, and Japan would not be the first. Although many of the U.S. carriers would have accepted something less than open skies to insure that a deal providing for increased access would be done, the U.S. government and some of the U.S. airlines insisted that the U.S. should accept nothing less than open skies. The rhetoric between the nations and the opposing viewpoints got quite heated. Eventually, the U.S. had to back away from its goal of open skies, given Japan's refusal, but at the same time, opting to modify the prevailing 1952 agreement to as close to open skies as possible. Japan felt pressure as well; other countries in the region were signing open skies agreements, and it didn't want to be left completely behind nor surrender Narita as the primary gateway for transpacific flights. Hence, the 1998 talks resulted in "controlled expansion" which allowed airlines of both nations to add more flights to Japan, formalized ANA's role as an incumbent, added new MOU carriers, provided price flexibility, created same country code-sharing to assist Northwest with its 14% ownership in Continental, and secured additional beyond rights for airlines of both nations.[21]

21 Matthews, Robert, "The New U.S.-Japan Bilateral Aviation Agreement: Airline Competition Through the Political Process", Journal of Air Transportation World Wide, Vol. 3, No. 2, 1998.

Both countries and most of the airlines were happy with the final outcome at the time. By the time the 1998 MOU was implemented, ANA had become part of the Star Alliance. American and JAL continued to deepen their relationship, and oneworld would form in 1999, although JAL would not join until 2007. The tightening of these relationships led to advancements in the air treaty between the nations. As ANA and JAL improved their relationships with United and American, respectively, and saw the benefits of alliances, especially antitrust immunity, they began to agitate with their government to expand the U.S.-Japan treaty. Korea had agreed to open skies in 2002, and its airlines had immunised relationships with their U.S. partners. However, because Japan had balked at open skies in 1998, the U.S. would not grant antitrust immunity to either the ANA/United relationship or the JAL/American alliance. This did not stop the U.S. and Japan from meeting in September 2007 to try to amend the agreement. JAL had joined oneworld that April and was eager to expand the agreement in some fashion to allow it to more fully cooperate with its U.S. partner, American. The resulting discussions yielded further opening of the agreement to include expanded code-sharing rights for both countries and easing of the pricing regulations. However, after this slight modification of the 1952 agreement, none of the airlines applied for antitrust immunity because it had been so clearly established in other bilaterals and nations that the quid pro quo was open skies.

As U.S. airlines and Japanese airlines cemented their alliances and grew closer together commercially, they developed even a greater interest in pursuing antitrust immunity. By 2010, Delta Air Lines had acquired Northwest and United and Continental were merging. ANA and United/Continental were interested in developing a joint venture similar to what United had worked out with Lufthansa and Air Canada for A++. From a network evolution perspective, newer aircraft technologies and increased liberalisation short of open skies in China, Hong Kong and other points allowed many airlines to now overfly Japan in order to access the U.S. marketplace.

JAL's situation was complicated. JAL had fallen victim to years of bloated costs and mismanagement; it entered bankruptcy at the beginning of 2010. JAL's new management began to question and re-align all aspects of JAL's operations, including its relationship with American. American and Delta began a high stakes contest for the JAL relationship. Eventually, American won out and JAL remained in the oneworld alliance. The open skies talks were ongoing as JAL's turnaround was being planned.

The realignment of dissenting points of view in the U.S., internally with corporate mergers and externally by international alliances, brought about an opportunity to depart from the 1952 accord and embrace an open skies agreement. Talks in 2010 were much easier than had been the case in prior rounds of discussions. At this point, most parties wanted the same thing. In advance of the talks and concurrent with the talks, a number of the airlines freely indicated that if open skies were achieved, they would be applying for antitrust immunity. This included United with ANA and Delta with JAL, as Delta fostered hopes of luring JAL away from American. American also applauded the open skies efforts to allow for antitrust immunity but refrained from naming JAL, as they were still desperately trying to retain JAL as a partner. In any case, behind the scenes talks between the airlines and between the airlines and their respective governments preceded the formal talks which began in 2009 and continued until the middle of 2010. This helped the talks continue their momentum, and the end goal was achieved in October of 2010 with a Memorandum of Understanding to establish open skies between the U.S. and Japan. Open skies with Japan included open first through sixth freedoms, but it did not provide open seventh freedoms for cargo carriers.

Airlines from both nations wasted no time in applying for their long sought-after ATI. United/Continental and ANA filed an application less than two weeks after the U.S-Japan MOU, and American and JAL filed for antitrust immunity less than two months later. Because each government had been fully briefed on their airlines' intentions in the run-up to the agreement, the airlines' actions took no one by surprise. The U.S. consolidated the airline's applications into one docket. The MOU was signed in October 2010, and approval for the alliance antitrust immunity was granted a month later in November. In its approval, the DOT noted that from historical experience and independent third-party studies an immunized alliance will expand route networks, increase connecting opportunities, increase competition with other alliances across the Pacific, reduce fares and provide greater access to lower fares, and save costs through joint procurement.

3. Airline Alliances

3.1 General comments on Airline Alliances

Airline alliances are cooperative arrangements between airlines which differ widely in depth, breadth and scope. Carriers may enter into a wide variety of cooperation agreements ranging from those with limited cooperation such as interline agreements or marketing arrangements which provide reciprocal access to frequent flyer programs and lounges to highly integrated forms of cooperation such as metal-neutral revenue sharing joint ventures.

An important benefit enabled by an alliance is access to traffic that in the absence of the alliance would not be possible due to limitations established by bilateral ASAs or national laws. In network planning, international airlines often envision a route structure which includes routes between their home country and another, and often times, routes beyond that country to a third country. However, airlines are required by most bilaterals, both traditional and open skies, to abide by the route rules established for their nation under the relevant bilateral ASA, which sometimes preclude them from going between point A and point B, or even to point C.

An alliance can often assist an airline to overcome this barrier to entry and expand its network, by code-sharing with another airline, into large geographic regions, which it could not accomplish with its own metal. The alliance partner likely also recognized reciprocal code-sharing benefits in the home territory of its new partner. Together, the two airlines' combined networks provide customers many more itinerary combinations than either airline on its own could provide.

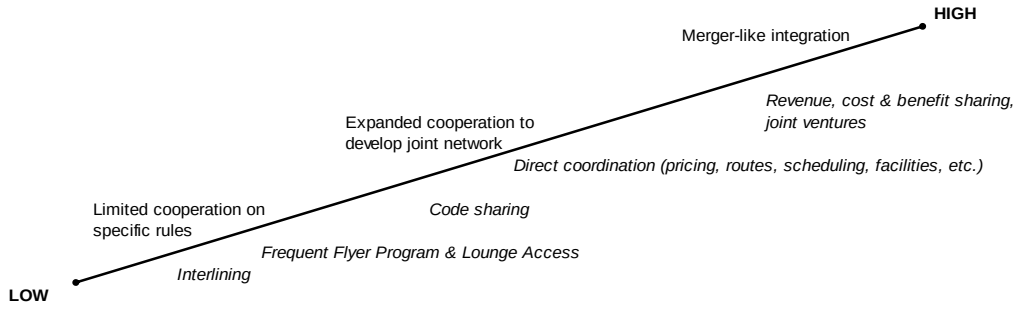
Alliances between air carriers can be broadly divided into two main categories: tactical and strategic alliances. Tactical alliances typically involve two or several carriers and are designed to address specific gaps in individual carrier networks by providing connectivity between the carriers' networks. In contrast, strategic alliances are broader and more comprehensive forms of cooperation between multiple carriers aimed at establishing large worldwide joint networks. Rather than merely close gaps in a network, strategic alliances seek to optimise networks, often changing which carriers operate which routes and with what capacity. Currently there exist three major strategic or global alliances: the Star Alliance, SkyTeam and oneworld. Within strategic alliances, carriers do not have to participate in all initiatives and generally choose to seek partnerships with other alliance members, which vary in nature and scope, a practice that was termed in the industry as "variable geometry".[22] For example, a core group of carriers from each of the three strategic alliances has formed a joint venture to operate transatlantic service.

Forms of cooperation between carriers within alliances vary greatly from limited marketing agreements governing the provision of frequent flyer points to fully integrated cooperative arrangements which involve coordination of prices, capacity, schedules as well as revenue, cost and profit pooling and sharing. From an antitrust perspective, arrangements with limited cooperation such as interline agreements pose no concern. The highest degree of cooperation can be observed in metal-neutral joint ventures where carriers engage in revenue, cost and profit sharing; jointly determine prices, capacity and

22 The Economist, "The Airmiles-High Clubs", 12 November 2011.

frequency of flights; and cooperate in marketing and sales. It is the latter form of cooperation that has attracted close scrutiny of antitrust agencies around the world.

Figure 3.1 **Common Types of Airline Alliances**



Source : U.S. DOT and European Commission, "Transatlantic Airline Alliances: Competitive Issues and Regulatory Approaches", November 2010.

Based on the extent of integration and cooperation, elements of an airline alliance may include:

- Coordination of route networks and schedules;
- Coordination of prices, inventory and yield management;
- Revenue, cost and profit pooling and sharing;
- Code sharing;
- Joint marketing, advertising and distribution networks;
- Joint procurement (purchase of fuel, catering, etc.)
- Reciprocal access to frequent flyer programs;
- Sharing of airport facilities;
- Coordination of IT platforms (ticket reservation and distribution systems, financial and accounting reporting, etc.)
- Coordination of cargo operations;
- Standardization of accounting, financial, product development and other practices.

Airline alliances with limited cooperation such as interlining or code-sharing rarely attract antitrust scrutiny. It is a standard practice across the industry for carriers to enter into code-sharing alliances that operate without antitrust immunity. Under a code-share alliance, one carrier sells tickets for flights operated by its alliance partner under its own two-letter code. Code-share arrangements enable carriers to extend the reach of their respective networks, increase the number of itineraries offered to passengers and improve their competitive position vis-à-vis other carriers. It is the forms of integration where airlines directly coordinate prices, seat capacity and schedules or pool and share revenues, costs and profits that may be problematic.

Integrated alliances involving coordinated pricing, inventory and yield management are typically governed by a specially designated alliance committee. The committee consists of representatives from the partner carriers and has the responsibility to oversee and manage cooperative activities. Once the committee has re-optimized the carriers' joint network, pricing and schedules, dissolving the alliance may result in substantial costs to the partner carriers. The costs of potential litigation or dissolving an alliance once it has been fully implemented may be substantial. Therefore, carriers generally seek antitrust immunity prior to initiating the process of integration.

Full merger would eliminate the coordination costs, which as indicated are significant. And a merger could deliver cost savings through consolidation of some management and accounting functions. Merger would, however, put at risk the rights granted under ASAs where the merging airlines are "citizens" of different countries because of the restrictions on ownership and control in most ASAs. Alliances are thus largely an artefact of ownership restrictions under ASAs.

3.2 Linkages between ASAs and Airline Alliances

As a general rule, bilateral ASAs do not include provisions to authorise airline alliances. The process of reviewing airline alliances to ensure their compliance with national competition laws is generally vested with a designated competition authority or regulatory agency. However, several features in liberalised or open-skies agreements facilitate the formation of alliances in a number of ways.

The following provisions are typically included in restrictive bilateral ASAs:

- countries designate a limited number of carriers to provide service on international routes;
- countries restrict changes in frequency and capacity (number of seats offered) or sometimes agree on levels of fares to be charged on international routes;
- countries require that carriers providing international service under a bilateral ASA are substantially owned and controlled by nationals of the country in which the airline resides; and
- countries may limit access for foreign carriers to certain airports.

Such features act as a barrier to competitive entry and expansion in international markets. In reviewing and authorizing an airline alliance, antitrust agencies weigh its pro-competitive benefits against anti-competitive effects. A key consideration in determining what impact the alliance would have on the marketplace is the presence of existing or future competitive forces that can constrain undesirable consequences of an alliance. In airline markets, the two key barriers to entry have been, at various times and places, constraints on rights to operate commercial air services contained in bilateral air service agreements and limited access to airport capacity (slots).

Liberalised and open skies agreements have paved the way to increased competition in international air service and, at the same time, facilitated the formation of alliances between carriers. Language in the pre-existing ASAs is usually changed in a number of places throughout the agreements to allow the free market to determine flights, in terms of capacity, destinations and prices. Specifically this includes, Grant of Rights dealing with code-sharing opportunities, Commercial Opportunities clauses providing unfettered access to airports and removing restrictions on capacity, and Pricing/Tariff conditions allowing the free market (and not government) to establish prices.

Grant of Rights

The U.S. opens skies model has changed the Grant of Rights section and the associated annexes to provide for open descriptions of flying. There are no set destinations, intermediate points, or beyond points. It provides for third and fourth freedom traffic, rights (the ability to carry traffic from the home nation and back) as well as fifth freedom traffic, rights (the ability to pick up traffic in the "other" nation and carry it to a third nation). In addition, U.S. open skies agreements have eliminated the requirement to designate a specific number of airlines for specific routes. While Canada maintains the requirement for designations, there is no limit on the number awarded.

Commercial Opportunities

This article incorporates a number of "doing business" issues in regards to operating flights to other nations that were covered in previous bilaterals, but often in different articles. Most importantly, opens skies added language granting rights to both nations for code-sharing between airlines (or surface transportation providers) from either or both nations and/or third country code-sharing.

In the Northwest-KLM alliance, this allowed Northwest to code-share beyond the Netherlands to third countries. For example, Northwest could now sell a Detroit-Amsterdam-Zurich itinerary with Northwest flight numbers on both legs of the trip, even though the second flight was operated by KLM. Likewise, KLM could offer an Amsterdam-Minneapolis-Fargo itinerary, with Northwest operating all sectors, but with KLM flight numbers.

Fair Competition

Although this article had been in some air service agreements prior to open skies, the ground-breaking 1992 Dutch accord elevated the importance of the article in covering the frequencies and capacity requirement or the lack thereof. While previous bilaterals often dictated the number of frequencies between nations and sometimes even the types of aircraft allowed, the new article on fair competition left these details to free market forces. As a result, alliances can grow important bridge routes to funnel traffic between hubs as much as they want, e.g., allowing Northwest and KLM to grow their route between Detroit and Amsterdam to five daily wide-bodies. In addition, U.S. open skies agreements eliminated the need to file schedules (and have them approved by the foreign government bodies), although Canadian open skies agreements retain this detail.

Pricing

Prior to open skies, most countries required airlines to file fares with the appropriate government bodies of the countries that they wanted to serve. Originally, a large number of governments simply required that carriers reach agreement on fares via IATA tariff conferences and file the fares with the respective governments. Over time, in large part due to pressures from the U.S. government, IATA fare agreements were no longer allowed, although fares had to be filed with the governments which each had the right to

disapprove the fares and tell airlines what they should be charging. The only option available to airlines that disagreed was to cease service on that route.

Open skies agreements did away with the mandate that governments must approve fares. Typically agreements state that carrier fares are automatically allowed, unless both nations disallow the fare (double disapproval).

Open pricing regimes allowed alliances to jointly set their prices on itineraries around the world. Previously, airlines would price one piece of an itinerary and interline with other airlines to create a fare from point A to point B. However, with alliances able to offer connecting flights on the "same" airline (courtesy of code-sharing), they created a number of online fares which had never existed before.

Thus, while liberalised ASAs themselves typically do not have clauses approving specific carrier alliances, their provisions revise market conditions so that competition authority requirements can be achieved. Several jurisdictions have even adopted the policy of requiring liberalised ASAs as a precursor to approving international airline alliances.

The U.S. DOT has pursued a dual policy of seeking the opening of international air service markets and granting antitrust immunity to U.S. carriers and their partners to operate highly integrated joint ventures on international routes. These policies have led to over 25 antitrust immunity approvals and over 90 bilateral and multilateral open skies agreements. Appendix B lists key immunised alliances approved by the U.S. DOT.

4. The Effects of Liberalised ASAs and Immunised Airline Alliances

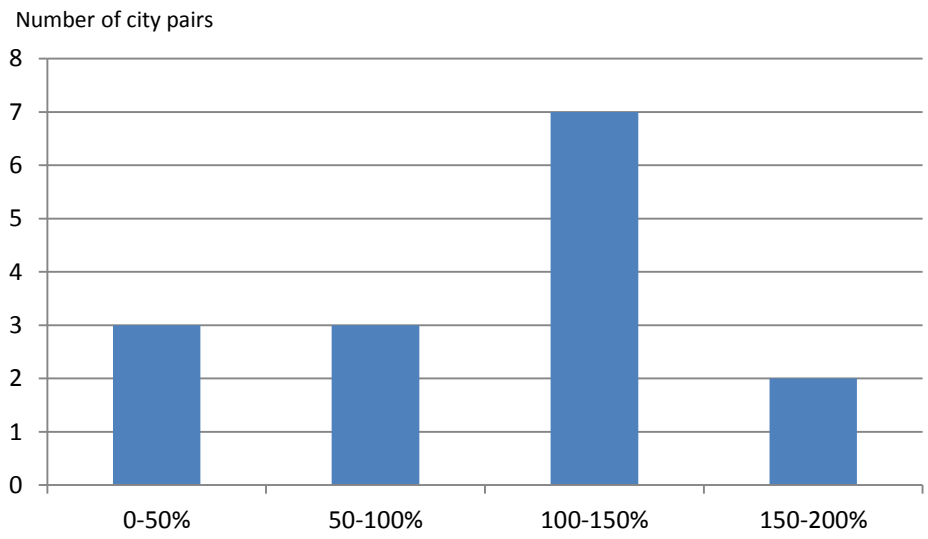
4.1 The Impacts of ASA Liberalisation

The general conventional wisdom has been that liberalisation of air services between countries generates significant additional opportunities for consumers, shippers, and numerous others directly and indirectly affected entities and individuals. Conversely, restrictive bilateral air service agreements between countries stifle air travel, tourism and business and, consequently, economic growth and job creation.

US Bilateral Agreements

The stimulus to traffic of liberalising individual bilaterals involving the United States is illustrated in Table 4.1 The table provides a comparison of traffic levels in the year immediately preceding inauguration of the new bilateral to volumes in the first full calendar year after inauguration. Figure 4.1 summarises the results. These examples result from changes in bilateral air service agreements, or from specific government decisions to relax the restrictive provisions of the prevalent agreements. The table shows that just one year after liberalisation, traffic increased by as much as 174%. On average the increase was roughly a doubling of traffic. This may understate the stimulus impacts as traffic can take several years to fully mature.

Figure 4.1 **Traffic Growth (%) in first year following ASA liberalisation**



Source : Table 4.1

Table 4.1. **Liberalisation of U.S. Bilateral ASAs and Traffic Growth**

City-Pair	Year Service commenced	Liberalisation Event	Increase in first year
Vancouver-Phoenix	America West 1995	1995 Canada-U.S. Bilateral	146.4%
Toronto-Minneapolis	Air Canada 1995, Northwest	1995 Canada-U.S. Bilateral	55.3%
Toronto-New Orleans	Air Canada 1998	1995 Canada-U.S. Bilateral	41.2%
Ottawa-Chicago	Air Canada / American 1995	1995 Canada-U.S. Bilateral	109.7%
Montreal-Atlanta	Delta 1995	1995 Canada-U.S. Bilateral	55.5%
Atlanta-San Jose CR	Delta 1998	1997 U.S.-Costa Rica	118.5%
Chicago-Hong Kong	United 1996	U.S.-Hong Kong Bilateral	21.1%
Chicago-London	United 1995	U.S.-U.K Mini Deal, 1995	42.1%
Chicago-Sao Paulo	United 1997	U.S.-Brazil, 1996	80.4%
Houston-Sao Paulo	Continental 1999	U.S.-Brazil, 1997	120.5%
Atlanta-Guadalajara	Delta 1999	U.S.-Mexico, 1991	169.5%
Detroit-Beijing	Northwest 1996	U.S.-China, 1995	174.3%
Houston-Tokyo	Continental 1998	1998 U.S.-Japan	116.6%
Atlanta-Rome	Delta 1999	1998 U.S.-Italy	110.8%
Dallas/Fort Worth-Zurich	American 2000	1995 Open Skies	115.3%

Source: InterVISTAS 2006.

A 2000 U.S. Department of Transportation study examined the impact of open skies agreements on transatlantic air fares.[23] It found that fares on routes with an open skies agreement between the U.S. and the European country had declined by 20.1% between 1996 and 1999, while fares on routes subject to a non-open skies bilateral had declined by only 10.3%.

Similarly, a 2002 study examined the effects on passengers of open skies between the U.S. and countries in the European Union.[24] It found that, on average, passenger traffic annual growth rates increased from 4.4% in the years prior to open skies to 7.8% in the years following the signing of an open skies agreement between a European country and the U.S. In comparison, transatlantic markets not subject to an open skies agreement saw no notable change in growth rates over the same period.

23 "Transatlantic Deregulation: The Alliance Network Effect", U. S. Department of Transportation, International Aviation Developments. Second Report, October 2000.

24 The Brattle Group, 2002. The Economic Impact of an EU–US Open Aviation Area.

Jamaica-U.S. Liberal Air Service Agreement[25]

The U.S. is the only country with which Jamaica has concluded a truly liberalised agreement. Jamaica depends highly on tourism and the U.S. is a major tourist market for Jamaica. Thus, the tourism market is central to Jamaican aviation policy.

In 1979 a liberal air service agreement was reached between the U.S. and Jamaican governments. In 2002, a full open skies agreement was signed, although it was a small advance from the already liberal agreement in place. It did allow Jamaican carriers to serve any point in the U.S., fully liberalised air cargo, and allowed for code-sharing arrangements.

During the period from 1979 to 2002, the U.S.-Jamaican market increased significantly from 450,000 to 1.2 million passenger arrivals, averaging 12% per annum growth. At the same time, Air Jamaica has maintained its competitiveness. Air Jamaica has increased the number of points served from four gateway points in 1979 to 12 gateways points across the United States by 2002.

EU Single Aviation Market

A 2003 study by the European Union found that the liberalisation of the EU air market (the single aviation market) had resulted in the following (EU, 2003):

- **Changes to industry structure**. The total number of scheduled airlines increased 6% between 1992 (the year before the EU air market was fully liberalised) and 2000, increasing from 124 to 131 airlines. However, this understates the degree of change in the industry. The EU reports that just over half the airlines present at the start of 1993 were still operating by the end of 2000. Between 1992 and 2000, 144 new airlines entered the market, of which 64 were still operating in 2000.

- **Increased routes and connectivity**. There was a strong rise in the number of city-pairs served and in overall capacity provided in the EU market. The total number of intra-EU city-pairs increased 74%, while the number of domestic city-pairs increased 12% between 1992 and 2000. Both the number of flights and seats operated increased by an even greater amount, indicating that overall capacity has increased substantially.

- **Increased route competition**. Between 1992 (the year before the EU air market was fully liberalised) and 2000, the number of intra-EU routes served by more than two carriers increased by 256% while the number of domestic (within member state) routes with more than one carrier had increased by 88%.

- **Reduced fares**. In real terms (i.e., after adjusting for inflation) discount economy fares, which represent the vast majority of tickets purchased, declined 34% between 1992 and 2000. Over the same period, full economy fares declined 5% in real terms.

25 "Jamaica's Experience with air transport liberalisation", Regulatory Policy Seminar on Liberalisation Policy and Implementation, in Port of Spain, Trinidad and Tobago, 27-29 April 2004.

Similarly, the 2006 study by InterVISTAS-ga2 on which Table 4.1 is based also found a substantial stimulation of traffic resulting from the liberalisation of the EU air market. It found that, as a result of liberalisation, the rate of traffic growth doubled from an average of 4.8% per annum in 1990-1994 to 9.0% per annum in 1998-2002.

UK-India Bilateral

The UK Civil Aviation Authority (CAA) examined the impact of the liberalisation of the UK-India bilateral which took place in 2004. The study found that two years afters liberalisation, the number of direct services between the UK and India had increased from 34 to 112 services per week (an increase of 229%). While most of these new services were operated between the two countries' main airports (Heathrow in the UK and Delhi and Mumbai in India), services connecting secondary points in the UK and India also arose. In addition, the number of carriers operating between the two countries increased from three to five. This increased competition resulted in average fares declining by 17% for leisure passengers and by 8% for business passengers. The lower fares and increased service caused passenger traffic between the two countries to increase by 108%.

Canada-Japan Bilateral

Gillen (2002) studied the effects of liberalising the Canada-Japan bilateral air service agreement which included removing restrictions on fares, entry and frequency of service. The study concluded that the removal of restrictions would lead Canadian airlines to reduce prices by 27% and Japanese airlines to reduce prices by 19%.

Multinational Studies

Gonenc and Nicoletti (2001) conducted a study of 27 OECD countries with the aim of analysing the relationship between liberalisation, ownership rules, competition, efficiencies and air fares. The study found that air fares tend to be lower in markets where regulatory impediments to competition are lowered or in other words where markets are liberalised. Both business and economy fares tend to decline in liberalised markets. The same is true for more competitive markets where concentration is reduced.

A study by the World Trade Organization (WTO 2008) also examined the impact of liberalisation on passenger traffic volumes using a gravity-type model calibrated on air passenger flows between 184 countries. The analysis found that complete or near-complete liberalisation resulted in traffic increases of 30%, on average, although some impacts were as high as 86% on some country pairs.

Oum, Zhang and Fu (2010) investigated the impacts of liberalisation on traffic volume and patterns as well as on economic growth. In addition, they examined the underlying mechanisms leading to those impacts. The authors found that liberalisation increases route competition and airline efficiency and thus increases traffic and economic growth. They also examined Low Cost Carrier growth and its relation to liberalisation and found that the rapid growth of Low Cost Carriers leads to increased competition and stimulated traffic which in turn calls for the elimination of restrictions on capacity, frequency and pricing.

Abate (2013) examined the impact of bilateral restrictions on fares and frequency on 20 routes between Addis Ababa, Ethiopia and international destinations using traffic data from 2000 to 2005. The bilaterals on these routes varied in terms of their restrictions on capacity, frequency and pricing. The analysis found that routes operating under liberal bilaterals had 10-21% lower fares and 35-38% higher frequency levels than restrictive bilaterals, all else being equal.

Doove et al (2001) analysed the impact of regulatory regimes in 35 OECD and non-OECD countries, using the methodological approach from the earlier work by Gonenc and Nicoletti. The authors found that restrictions on carrier designation, seat capacity constraints, price controls and restrictions on charter services in bilateral air service agreements tend to increase international discounted air fares between 3% and 22%.

While there has been substantial body of research into the impact of liberalisation on passenger services, these exists very little research on the impacts on air freight. One research paper did examine the impact of air service liberalisation on air freight rates (Micco and Serebrisky 2004). The authors found that improvements in the "quality of regulation" (i.e., the level and structure of tariffs associated with aeronautical services, how they are set and the regulatory process to modify them), reduced air freight cost by up to 14%, while fully deregulating the air cargo market (i.e., open skies) resulted in a further 8% decline in freight rates.

On balance, there is strong evidence in the economic literature that liberalisation of bilateral air service agreements leads to substantial benefits for economies as well as consumers. Liberalising bilateral air service agreements, even in an incremental fashion, can generate significant benefits for consumers, carriers and communities in general through expanded economic opportunities and job creation.

Recognizing this positive impact, many governments around the world have embraced the course of liberalisation in domestic and international air service markets. The vast majority of world governments have given their explicit or implicit support to the notion of liberalisation, if not always adhering to the practice of liberalising air service.

4.2 The Impact of Immunised Airline Alliances

Researchers have conducted numerous theoretical and empirical studies to assess the impact of immunised airline alliances and code sharing on consumers, carriers and competition in airline markets. Some key highlights are provided below, with an overview of studies on the impact of alliances on social welfare provided in Appendix A.

Modelling Literature

The modelling literature produces results which depend on key market behaviour assumptions made by the researcher. Models assuming airlines compete on price (Bertrand models) generally find that benefits from alliances with antitrust immunity are not greater than simple code share alliances. But these researchers generally have not tested whether this critical modelling assumption is warranted.

In contrast, models that assume carriers compete largely via the capacity they deploy in markets (Cournot models), e.g., trying to build market share by adding flights, find substantial benefits in the form of lower fares, especially on connecting flights, for alliances with antitrust immunity for price and capacity management. Again the key modelling assumption has not been tested by the researchers.

To date, these models have not addressed whether these benefits for immunised alliances are larger or smaller than for alliances with only code sharing or alliances which do not have immunity from antitrust laws. This is an area that has not been thoroughly investigated in the literature.

Because these theoretical models have not tested the critical modelling assumptions (competition via price rather than via capacity), the literature based on theoretical modelling is of limited relevance, as the results are critically dependent on untested assumptions.

Empirical Literature

The empirical literature is primarily focused on two markets: international alliances and U.S. domestic alliances. The empirical literature indicates that most alliances are of great benefit to the allied carriers. This is not surprising given that if there were no benefits to the alliance partners, the airlines would not pursue alliances.

The effects on consumers are an area where empirical findings diverge. The empirical literature indicates that alliances have greatly benefited consumers in connecting markets, both by lowering the average fare they pay and by reducing the time required for their journey. The value of time for airline travellers is such that the time saving benefits are very substantial, a result echoed in the literature on the benefits of airline deregulation. The fare benefits derive in part from what economists call reducing double marginalisation. For example, a paper by Ito and Lee, using data from U.S. domestic markets, found that code sharing alliances reduce fares by 12% relative to interline fares (connections between two unallied carriers).

Consumers value on-line connections (connections on planes belonging to the same carrier) much more than interline connections, producing a further benefit. The benefits to passengers of on-line connections is almost a uniform finding in the literature and is the underpinning for aviation industry route and network planning. On-line connection means that passengers do not have to transfer to other airlines, which greatly simplifies baggage transfers, ticketing, check-in procedures and schedule coordination.

Other benefits for passengers documented in various studies include expanded number of destinations for travellers enabled by an alliance, lower fares for connecting passengers in international markets and an increase in passenger traffic stimulated by lower fares.

The literature does find that some alliances have negative effects on passengers. Studies that find negative effects have found the detriment largely confined to a handful of hub to hub routes. The specific problem routes have generally been high traffic hub to hub routes where pre-alliance only the two alliance carriers operated, and where there were barriers to entry to these routes, such as airport access or control of distribution channels. Three examples that appear in the literature are Zurich to Brussels (Sabena with Swissair), Pittsburgh to Philadelphia (US Airways), and Minneapolis-Amsterdam (Northwest-KLM). The Zurich to Brussels case involves two carriers that ultimately failed. Both were viewed by many in the industry as carriers with failing business strategies before the alliance, made worse by the alliance itself. One alliance also was found to produce more general negative effects, but this was a European case where the carriers were contracting their capacity, and where there was poor coordination of feed traffic.

The literature has also assessed the impact of alliances on non-allied carriers. Here the results vary. In some studies competing carriers may have no change in their producer surplus, while in others there may be reduced producer surplus. In the latter case, the literature has generally not addressed the issue as to whether the increase in the producer surplus for the alliance (which is often large) outweighs the reduction in competing carrier producer surplus. This is an unresolved issue.

Critics express concerns that alliances may undermine the ability of smaller independent airlines to compete in international markets and increase the risk that allied carriers could engage in predatory practices to eliminate entrants or smaller competitors.

It should also be pointed out that the cases of alliances with zero benefit or negative impacts on passengers are cases that involve markets where entry barriers were present, especially airport access barriers (including not only access to slots but also access to terminal facilities).

A recent paper in this area by Dresner and Ziang (2009) concluded that connecting passengers benefit from the global airline alliances and nonstop passengers are not negatively affected. For hub to hub routes, they pointed out that there are two opposing forces. On the one hand, alliances could increase the market power of the alliance carriers on their hub to hub routes, while on the other hand the alliance carriers may enjoy lower costs (from pooled economies of traffic density) which can be further passed on to travellers. Using data on 113 routes, the effects of two transatlantic alliances operating with antitrust immunity were investigated to determine their impact on air fares and capacity. The study found that the Star Alliance and Skyteam have had little effect on hub-to-hub fares, with hub-to-hub fares similar to fares on other non-hub routes. The oneworld alliance has lower fares on hub to hub routes, although this alliance had not been granted antitrust immunity at the time of the study.

The theoretical and empirical examination of the socio-economic welfare impacts of alliances is further developed in Annex A. summarising, the literature finds that most alliances produce both benefits to the allied carriers and benefits to consumers. A major source of benefits are from improved connections for travellers and the reduced fares by being able to offer through fares without double marginalisation. Where negative impacts have been found it has largely been on hub to hub markets with no other competitors and/or airport access barriers.

4.3 Stakeholder Acceptance Issues

Policy makers need to be cognizant of potential sources of opposition to granting antitrust immunity or other forms of authorisation to international airline alliances. Among parties who may be negatively affected by alliances and therefore express opposition to granting antitrust immunity or other forms of regulatory approvals are competing non-allied airlines, lawmakers, labour unions and consumer groups.

Selected case studies reviewed below illustrate issues with stakeholder acceptance and remedies that can be applied to address concerns raised by the various opposition groups.

Star Alliance ATI Extension over Continental Airlines

In the United States, the proposal to extend a broad grant of antitrust immunity to selected members of the Star Alliance to Continental Airlines in 2009 raised strong opposition in the U.S. Congress and from the U.S. DOJ.

Among other partnerships, the ATI enabled Continental Airlines to participate in the transatlantic joint venture between United, Lufthansa and Air Canada (also known as Atlantic++ or A++)[26]. A++ is a transatlantic metal-neutral joint venture that received antitrust approvals from regulators in the United States and, more recently, in Europe. The extension of A++ to Continental Airlines was faced with resistance from legislators in the U.S. Senate, where a bill was introduced (but never passed) to add a sunset provision to the granting of antitrust immunity to air carriers. The bill also called for a study by the Comptroller General to review the legal requirements and policies used by the U.S. DOT for authorising international airline alliances and granting antitrust immunity and propose new standards. The DOJ expressed strong concerns over including Continental airlines into the immunised Star Alliance and urged the U.S. DOT to consider limited immunity with carve outs instead.

The extension of antitrust immunity to Continental was limited by carve outs on certain international routes from and to the United States where Star alliance immunised carries have the potential to harm

26 Other carriers that have joined A++ include Brussels Airlines, Swiss, Austrian Airlines and British Midland Airways. The latter was folded into British Airways in 2012.

competition. This measure is a standard policy that has been used by the U.S. regulators to alleviate competition concerns, although the measure has been argued by some to have limited effectiveness.

Due to concerns over the competitive impact of the joint venture, European regulators sought remedies as part of alliance authorisation, under which the carriers were compelled to give up slots at New York and Frankfurt airports.

American Airlines/British Airways Transatlantic Joint Venture

American Airlines, British Airways and Iberia received antitrust immunity from regulators in the United States in 2010 to form a joint venture that applies to transatlantic routes. Under the joint venture, the carriers will coordinate routes, schedules and prices and operationally act as a single carrier. The deal has followed a long period of resistance from regulators, consumer groups and non-allied carries due to concerns over competition and potential deleterious impacts on the consumer, in particular business travellers. The carriers had made several attempts to obtain regulatory approval and antitrust immunity to operate the alliance since the late 1990s but only succeeded in 2010. The joint venture route network will be expanded after US Airways completes its integration into the oneworld transatlantic joint venture, following its recent merger with American Airlines' parent company and its entry into the oneworld alliance.

A major concern arose due to the fact that the carriers control a substantial share of the U.S.-London Heathrow traffic. In particular, the alliance partners control a substantial share of seats on the U.S.-London Heathrow routes (40% for British Airways and 18% for American Airlines).[27] London Heathrow was the third largest airport in the world based on 2011 passenger traffic and is a major destination for business travellers. The airport has severe limitations on slot capacity. Currently, the airport operates at 98% capacity and addition of new capacity would require building an additional runway.

The proposed joint venture met vocal opposition from non-allied carriers. Non-allied mid-size carriers offering service on international routes are often seen as being harmed by the consolidation of operations among allied carriers. Thus, Virgin Atlantic expressed strong concerns that the joint venture would create a dominant power on routes between Europe and the United States calling it a "monster monopoly".

The joint venture was investigated by the European Commission and reviewed by the U.S. DOT. The European regulator cleared the transaction in 2010 but imposed the condition that BA would relinquish four transatlantic take-off and landing slots at London's Heathrow airport for lease to competing carriers. The U.S. DOT imposed an additional requirement that the carriers give up slots at New York JFK airport in exchange for antitrust immunity. When the carrier sought immunity in 2002, the U.S. DOT required the carriers to give up 16 daily slot pairs at London's Heathrow, a condition which was viewed as too burdensome and hence turned down by the carriers at the time. In relaxing the requirement in 2010, the regulator acknowledged the potential benefits of a joint venture in the form of "lower fares on more routes, increased services, better schedules and reduced travel and connection times."[28]

Interestingly, the U.S. DOT did not impose carve outs, unlike in the case with Star Alliance ATI where partners to the transatlantic joint venture (United and Lufthansa) were prohibited from coordinating pricing, schedules and capacity on Frankfurt-Chicago and Frankfurt-Washington. The move away from carve outs signifies a change in approach. Some studies have questioned the effectiveness of carve outs

27 Wall Street Journal, "BA, Iberia, American Launch Venture, Add Routes", 7 October 2010.

28 CAPA, "DoT grants British Airways-American Airlines, oneworld anti-trust immunity", 15 February 2010.

and argued that instead of preventing anticompetitive harm carve outs may prevent the carriers from achieving efficiencies and cost reductions.

It is necessary to view the authorisation of the American-BA-Iberia transatlantic joint venture by U.S. and European regulators in the broader context of negotiations to liberalise air service across the Atlantic through an open skies agreement. Undoubtedly, while both sides had substantial issues and differences in the process of negotiating a liberalised ASA, the authorisation of the transatlantic joint venture between oneworld carriers by regulators on both sides of the Atlantic can be seen as a strong facilitating factor in the negotiation process as well as a signal of some consensus with respect to the impact of immunised alliances on the transatlantic market.

American Airlines/Japan Air Lines Transpacific Joint Venture

American Airlines and Japan Air Lines (JAL) sought and received antitrust immunity from U.S. and Japanese regulators to operate a joint venture on transpacific routes. The joint venture was approved after the United States and Japanese governments signed an open skies agreement to liberalise air service between the two countries.

The American-JAL joint venture illustrates the role that liberalised ASAs play in enabling carriers to obtain ATI approvals from regulators in their respective jurisdictions. It also illustrates how an alliance may create an impetus for liberalising international air service. The Japanese government holds a majority share in JAL and has a direct interest in the carrier's financial viability. The transpacific joint venture is part of a broader strategy by JAL to pursue greater cooperation with other carriers in international markets as a way to improve its financial performance, following years of mismanagement and poor profitability which culminated in its recent bankruptcy. Other noteworthy alliances pursued by JAL include a joint venture between JAL and Qantas low-cost subsidiary Jetstar announced in 2012 and a joint venture between JAL and British Airways which would apply to flights between Japan and Europe.

The immunised joint venture holds a strong potential to negatively impact other domestic carriers in the United States – at least one large US carrier (Delta Air Lines) lobbied hard against the U.S.-Japan open skies agreement, as it would undermine its competitive position at Narita International Airport in Japan. After a merger with Northwest Airlines, Delta secured a strong position in the U.S.-Japan market and a major presence at Narita. If was one of the three U.S. carriers (Delta, United and FedEx) which could offer unlimited flight frequency to all Japanese destinations under the pre- open skies bilateral ASA between the U.S. and Japan.

Delta actively pursued a joint venture with JAL that, if had been formed, would have effectively created a dominant force on the U.S.-Japan routes with over 60% of all slots at Narita International Airport. Both Delta and American offered financial inducements in the form of proposed aid (app. $1 billion each) to assist the ailing Japanese airline and to secure its partnership in a joint venture. JAL eventually decided to form a joint venture with American Airlines, which would challenge the dominant position of Delta Air Lines on the U.S.-Japan routes. Delta's opposition to the open skies agreement was motivated by its desire to protect its competitive position in the U.S.-Japan market.

5. Competition review of airline alliances

5.1 Key Issues with Reviewing and Authorising Airline Alliances

In reviewing and authorizing an airline alliance, antitrust agencies weigh its pro-competitive benefits against anti-competitive effects. Competition from other airlines may be limited if there exist high barriers to entry on a given route. In airline markets, the two key barriers to entry have been, at various times and places, constraints on rights to operate commercial air services contained in bilateral air service agreements and limited access to airport capacity (slots).

Potential anticompetitive effects of an alliance are of greatest concern for antitrust agencies where the allied carriers have a substantial overlap in their networks. An alliance where carriers coordinate pricing, seat capacity, scheduling and cooperate in other areas effectively eliminates competition between the carriers and leads to increased concentration in the market. If the number of other non-allied carriers serving that market is limited and there are substantial barriers to entering or expanding service, then the allied carriers may exercise market power leading to higher fares, reduced service and other undesirable consequences.

In international markets, an alliance may reduce competition in hub-to-hub markets where the allied carriers are direct competitors (referred to as "horizontal" effects). A secondary concern in international markets is restricted access to domestic feed traffic for non-allied carriers at hub airports dominated by alliance partners (referred to as "vertical" effects). If allied carriers can effectively foreclose access to feeder traffic to other non-allied competitors at their hubs, then the viability of competitors' operations on international routes from those hubs may be reduced.

Carriers seeking highly integrated forms of cooperation, such as metal-neutral joint ventures, tend to seek antitrust immunity to operate such alliances as they are highly likely to violate antitrust laws. Airlines are unlikely to pursue merger-like activities through an alliance without antitrust approval because of the risk that the alliance may be challenged by antitrust authorities. Competition authorities review alliances on a case by case basis to determine what impacts they have on competition in the marketplace. If net impacts are positive, alliances are typically approved and granted antitrust immunity.

Restrictive Bilateral Air Service Agreements

The first major potential barrier to entry is constraints in bilateral air service agreements. The 1919 Paris Convention established that nations have sovereignty over their air space, thus requiring negotiation of air service agreements between nations to facilitate commercial air services. The principle of sovereignty was confirmed by the 1944 Chicago Convention, which remains the most important source of international public air law. While multilateral agreements exist, most commercial air services are established by bilateral air service agreements between two nations. These agreements determine the terms and conditions under which respective national carriers can access routes which terminate or begin in the countries concerned. There are currently more than 3,000 aviation treaties worldwide, which represent more than 900,000 city-pair combinations. This network of treaties constitutes the practical regulatory framework for the international air services network.

International air service treaties are complex trade agreements and involve a number of national interest considerations. As a consequence, access to markets is conditional. In general, bilateral agreements are premised on reciprocal rights. They generally grant the same rights to national carriers from both participating countries in respect of international travel between (or occasionally in) the two countries.

To the extent that existing bilateral air service agreements restrict access to add or increase air service for existing and potential airlines, they may pose a substantial barrier to entry and competition. The following elements in bilaterals can present barriers to entering and expanding service on a given route:

- Designation of a limited number of carriers to service the route;
- Restrictions on frequency and seat capacity offered on the route;
- Restrictions on air fares that carriers can charge on the route; and
- Restrictions on permitted cities or permitted routes.

Limited Access to Airport Slots

The second significant potential barrier to entry is limited access to take-off and landing slots at airports. IATA designates a number of airports around the world as coordinated or slot-constrained. IATA defines a coordinated airport as follows:

> "A Level 3 airport is one where:
>
> a) Demand for airport infrastructure significantly exceeds the airport's capacity during the relevant period;
>
> b) Expansion of airport infrastructure to meet demand is not possible in the short term;
>
> c) Attempts to resolve the problem through voluntary schedule adjustments have failed or are ineffective; and
>
> d) As a result, a process of slot allocation is required whereby it is necessary for all airlines and other aircraft operators to have a slot allocated by a coordinator in order to arrive or depart at the airport during the periods when slot allocation occurs."[29]

Because slots at a coordinated airport may not be available at peak times, it is essential that airlines operating or planning to operate there should be prepared to develop alternative plans if they are unable to acquire the exact slots that they need. There are some airports where few or even no suitable slots are available. In this case, alternative airports, which could accommodate their planned services are available in some places.

While Level 3 status is one where slots are typically not immediately available at all peak hours, many airports are listed as level 3 airports even though slots are relatively easily accessible, if not in the exact 15 minute block desired, generally within one to two hours of the airline's desired time. One example is Vancouver International Airport listed as a level 3 airport. For a period in the mid-1990s, the airport was unable to accommodate all requests for peak period slots, with peak periods lasting up to 3 hours.

29 IATA, "Worldwide Slot Guidelines", Effective August 2013.

However, when an independent parallel runway was opened in 1996, slots were generally available at any time, but the airport status as an IATA level 3 airport remained unchanged. In fact, many of the IATA level 3 airports have slot access available.

Further, even at slot challenged airports, the IATA scheduling guidelines (or national guidelines which typically are variants of the IATA guidelines), stipulate that half of any peak hour slots that become available (e.g., by a carrier exiting the market or downsizing its service) must be awarded to new carriers at that airport or on a particular route. Also, slot coordinators will give priority in awarding slots to carriers which are constrained into small time windows due to time of day restrictions at the airport at the other end of the route. Thus, attempts are made to prevent denying a carrier access to a level 3 airport simply because they have a narrow time window for operational reasons.

Thus, while slot access may present a significant barrier to entry and expansion of air service, it needs to be reviewed in the context of a particular alliance and with respect to specific routes operated by that alliance. As described above, IATA slot allocation rules provide guidance to airport slot managers that half of all slots which become available within each 6 month scheduling season are to be made available to new entrants, either new airlines or new airlines on existing routes. Slots regularly become available due to carrier reduction in flight frequency on existing routes, or carriers withdrawing from a route.

The slot issue was raised in several reviews of alliances and cross-border mergers. As a general comment, bilateral ASAs typically do not contain provisions regulating access to airport slots, but may contain a general principle that countries that are parties to the bilateral ASA will work jointly to address any issues relating to slot availability. This is a particularly important issue for airlines seeking access to large international airports with severe slot constraints.

There are exceptions to this general practice (e.g., the 1995 and 2007 U.S.-Canada bilaterals). Concerned about competition from U.S. carriers in trans-border markets, Canada negotiated guaranteed access to three slot constrained U.S. airports for Canadian carriers. Specifically, such slots have been allocated to Canadian carriers at New York LaGuardia Airport and Chicago O'Hare Airport. In addition, the operation of non-stop scheduled passenger service from Ronald Reagan Washington National Airport to any point in Canada by US carriers is conditional upon the presence of non-stop service by Canadian carriers to that airport.[30]

Efficiency Considerations

In seeking antitrust immunity to operate an alliance, partner carriers often put forth the view that the integration and coordination of activities will enable costs savings and other efficiencies that may be passed on to consumers in the form of lower fares. Thus, carriers participating in transatlantic joint ventures claim that significant benefits are derived by consumers on their transatlantic networks, many of whom are connecting passengers, citing economic literature which shows benefits for connecting passengers from immunised alliances.[31]

The largest efficiencies may arise as a result of full integration of operations by carriers under a metal neutral joint venture. In 2009, under a proposal to form a transatlantic joint venture (referred to as JBA), American Airlines, British Airways and Iberia argued that full integration would provide an incentive to

30 Air Transport Agreement between the Government of the United States of America and the Government of Canada, signed, Mar. 12, 2007, annex II, section 2, paragraph 2.

31 Gillespie William and Oliver M. Richard, "Antitrust Immunity and International Airline Alliances", U.S. Department of Justice Economic Analysis Group, Discussion Paper, February 2011.

carriers to code-share on all transatlantic routes including beyond and behind segments. Absent a fully integrated joint venture, carriers have the incentive to keep certain lucrative routes out of the code-sharing arrangement due to the risk of traffic diversion. For example, passengers travelling on American from Seattle to London via Chicago would prefer to catch a direct Seattle-London flight with British Airways if American were to sell the British Airways flight under its own code. This could result in traffic and revenue diversion from American to British Airways. A joint venture removes the disincentive to include certain transatlantic and beyond and behind segments as part of the code-share arrangement as carriers share revenues and profits. Similarly, under a joint venture passengers may benefit from re-timing frequencies on current routes to be complimentary under a metal neutral model in addition to an expanded set of routes and destinations in the carriers' combined network.

Economic literature (e.g., Brueckner and Whalen 2000) shows that immunised alliances may result in lower fares for connecting passengers compared to non-immunised interline arrangements. The main economic argument used to explain this empirical result is double marginalization, which disappears when carriers determine fares jointly under a joint venture. Under an interline agreement, where fares are set independently by the carriers, each carrier determines a profit maximizing price independently of its interline partner which results in the doubling of profit margin and hence higher fares. Coordinated price setting eliminates this issue, at least according to proponents of joint ventures. Some researchers find little or no evidence, however, that fares are lower for economy-class tickets as a result of immunity.[32] Much of this research is criticised for failing to fully control for all factors explaining prices, however. Suffice it to say that there is empirical evidence on both sides of the issue.

There is a subtle but important issue here in how economists look at 'economic efficiency.' The latter is generally determined to be maximised when some consumers can buy tickets at close to the airline's marginal cost of providing service. With the use of seat management (also known as revenue or yield management) systems by airlines, even carriers possessing and exercising market power will still offer some seats at marginal cost prices. Thus, a price discriminating carrier with market power can be found to be economically efficient and any merger or alliance will similarly achieve economic efficiency. While price discrimination can result in economic efficiency and thus not be undesirable on this criterion, some consumers will pay fares greater than carrier marginal costs. Thus, there can be a transfer of economic surplus from such consumers to producers. Some national competition laws focus only on economic efficiency (the typical focus of theoretical economists), others also consider transfer of surplus from consumers to producers as part of balancing public interests. This can result in paradoxes where one nation approves an alliance while the other nation denies the same alliance. This was the case in a proposed Qantas–Air New Zealand alliance where Australia's competition tribunal approved the alliance, largely on economic efficiency grounds, while the New Zealand Commerce Commission (upheld under appeal to the court) denied the alliance, in part due to surplus transfer effects.

Spillover effects

Regulatory and competition authorities consider the impact of alliances on competition and travellers in international and domestic markets. A major challenge facing U.S. regulators is concern over potential detrimental impacts on domestic markets as multiple U.S. carriers seek antitrust immunity to join the same international alliance. Continental's entry to the Star Alliance, which already had some of the largest U.S. carriers, and the extension of antitrust immunity over Continental to enter into highly integrated alliances with a core group of Star carriers (which also included U.S. carriers), is a good example. While the immunity was extended to Continental, regulators in the United States and other jurisdictions imposed conditions in the form of limitation on the ability of the carriers to coordinate their

32 Ibid.

activities on certain routes in order to alleviate concerns over competition and impact on travellers in the domestic market.

Case Studies

LATAM Holding Company

LATAM was formed in 2012. While usually perceived as a merger between a Chilean flag carrier (LAN) and the largest airline in Brazil (TAM), LATAM is actually a holding company for the two airlines, which operate under separate certificates and as separate brands but with a common strategy. The merger resulted in the largest carrier group in South America by passenger traffic with hubs in Sao Paulo, Santiago, Lima and Bogota. The group also includes subsidiaries in Argentina, Colombia, Ecuador, Paraguay and Peru.

Following the merger, the two airlines are still operated separately. In Brazil, TAM is 80% owned by the Amaro family (Brazilian nationals) and 20% by LAN, which accommodated previous foreign ownership restrictions. This ownership structure was in effect when the deal was consummated in 2012. The merged airline continues to operate with both brands.

A key issue raised by the merger was the availability of take-off and landing slots to competing airlines at the Guarulhos International Airport (GRU) in Sao Paulo, Brazil. As a condition of the merger, LATAM was required by the Brazilian competition authority and the Chilean antitrust court to exchange four pairs of take-off and landing slots at GRU with other airlines on demand. Not all carriers can request a slot exchange from LATAM at GRU. The requesting carrier must be incorporated in Chile or Brazil. Another operational requirement to be eligible to participate in the slot transfer procedure is that the airline requesting slots have traffic rights to operate service between Chile and Brazil. Thus, the pool of potential qualified applicants for LATAM slots at GRU is essentially limited to Chilean or Brazilian airlines which are designated to operate international service under the Chile-Brazil bilateral ASA.

Another issue raised by the merger related to participation by the merging carriers in global alliances. Prior to the merger, LAN was a member of oneworld while TAM had membership in the Star Alliance. The carriers were required by the respective antitrust authorities in Chile and Brazil to end the relationship with one of the alliances post-merger (oneworld or Star Alliance). Star Alliance members at the time of the merger included Avianca and Copa, the flag carriers of Colombia and Panama respectively, which would mean an undesirably high concentration of major competing Latin American carriers within one global alliance. Recognizing the potentially detrimental effect of high concentration of Latin American carriers within one global alliance, the Chilean competition authority imposed an additional condition that LATAM cannot participate in the same alliance as its competitor Avianca. TAM has since ended its membership in the Star Alliance and joined oneworld.

Additional measures to facilitate competition and alleviate antitrust concerns related to the LATAM merger were adopted. Among key conditions of the merger, LATAM was required to:

- provide access to its frequent flyer program to interested and qualified competing carriers;
- enter into straight pro-rate interline agreements with other carriers; and
- cancel code-share agreements and reduce or terminate service with respect to certain routes.

Continental-Copa Alliance

The alliance between Panama's flag carrier Copa and Continental Airlines which received antitrust immunity from the U.S. DOT in 2005 deserves special consideration. Copa competes to some extent with Mexican carriers for sixth freedom traffic moving between the United States and South America as well as traffic moving between Mexico and South America via Copa's hub.

Copa's alliance with Continental essentially linked the carriers' route networks end-to-end, strengthening their competitive position in the U.S.-Latin America market, in particular in the U.S.-South America market vis-à-vis competing carriers such as American Airlines, Delta Air Lines and United Air Lines and their partners. At the time of application, Continental and Copa had a market share of 18.7% in the U.S.-Central America market.[33] The remaining market share was divided between American Airlines and its regional partners which accounted for 29.4%, two major Mexican carriers (Mexicana and Aeromexico) which accounted for 26.7% on a combined basis and other competing carriers with a market share of 25.2%. Issues related to this alliance are worthy of a detailed discussion.

The open skies agreement between Panama and the United States, signed in 1997, was a key factor for the U.S. DOT's decision to grant antitrust immunity to the Continental-Copa alliance. The agreement enables unrestricted third and fourth freedom traffic rights and grants open beyond and behind rights to U.S. and Panamanian airlines (fifth and sixth freedom traffic rights).

Another key consideration was access to slots and airport facilities. There were no significant operational or marketing barriers to entry in the U.S.-Panama market that could hinder entry by other competing carriers, as slots at the airports served by the alliance carriers were generally accessible, according to the U.S. DOT analysis.

In 2009, Continental left SkyTeam to join the Star Alliance and subsequently merged with United Airlines. Copa joined the Star Alliance several years later in 2012 and continued its close commercial alliance with United-Continental which, among other things, provides access to passengers of both airlines to the joint frequent flyer program (Mileage Plus) and access to airport lounges. Upon merging with Continental, United retained the antitrust immunity to operate an alliance with Copa.

An agreement establishing a three-way code-sharing relationship and granting mutual frequent flyer reciprocity between Copa, United-Continental and Avianca-TACA was announced by the carriers in 2011, further strengthening their commercial relationship in the U.S.-Latin America market. To our best knowledge, no antitrust review has been initiated with respect to the three-way code-sharing relationship.

5.2 Remedies

Remedies that are typically applied to authorised alliances include the following:

1. Carve outs limit antitrust immunity by prohibiting carriers from coordinating activities, setting prices and capacity jointly as well as pooling revenues on certain specified routes. The carve out condition is a wide prohibition which prevents carriers partnering through an alliance from coordinating pricing, seat capacity, inventory and yield management, as well as pooling of revenues, costs and profits on the routes designated as carve outs. It also prevents parties from

33 Central America includes Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

sharing information about current and future fares or seat availability offered to passengers or travel agents.

The U.S. DOT has applied carve outs to prevent carriers from coordinating pricing, inventory or yield management as well as revenue pooling and sharing in order to mitigate competition concerns in a number of immunised alliances (e.g., the 1996 United-Lufthansa alliance expansion agreement, the 2009 broad alliance between selected Star Alliance carriers and the Atlantic Plus Plus (A++) joint venture between Air Canada, Continental, United and Lufthansa within the broad alliance).

In the case of United-Lufthansa, the carriers were prohibited from coordinating activities on sharing information on fares or seat availability on routes such as Chicago-Frankfurt and Washington-Frankfurt with respect to U.S. point-of-sale customers flying nonstop. Similarly, the United-Air New Zealand alliance was approved on the condition that the carriers will not coordinate activities or share passenger information on the Los Angeles-Auckland and the Los Angeles-Sydney routes. The American-LAN Chile-LAN Peru alliance received approval subject to the condition that the carriers would refrain from coordinating operations on the Miami-Lima and Miami-Santiago routes.

Carve outs have been applied to selected routes operated by other immunised airline alliances (e.g., the Transatlantic Joint Venture or A++ between Lufthansa, Air Canada and United/Continental or the Transborder Joint Venture which applies to Canada-U.S. routes between Air Canada and United/Continental).

As a remedy, carve outs may be problematic for a number of reasons. First, carve outs prevent alliance partners from deriving maximum efficiencies associated with integrating and optimising networks. Second, carve outs may entail substantial administrative costs for carriers – a separate system may need to be created to manage seats on the routes carved out from antitrust immunity. Recent decisions by the U.S. DOT (e.g., the American/ BA / Iberia joint venture) indicate that the agency is shifting away from carve outs. In that case, the DOT and the European Commission required the carriers to transfer slots at London Heathrow airport as a condition of approval.

2. Carriers may be required to relinquish take-off and landing slots or make them available for lease to competing airlines at airports with restricted capacity. The U.S. DOT and the European Commission applied this measure in the review of the oneworld transatlantic joint venture, as mentioned above. Regulators typically require that the slots be made available on terms that would enable meaningful entry. This could include a certain level of frequency which would determine how many pairs of slots will be relinquished and at what particular time of day.

3. Carriers may be required to withdraw from any consultations or participation in negotiation of fares, rates and charges through IATA tariff coordination conferences. Typically carriers would recuse from IATA facilitated tariff negotiations that apply to routes affected by the alliance.

4. Carriers participating in immunised alliances are required by the U.S. DOT to report full-itinerary O&D data for all passengers and routes to and from the United States. This requirement applies to U.S. carriers and foreign carriers that enter into immunised alliances with U.S. counterparts.

5. Alliance authorisations may be limited in duration. This remedy has been applied in the Cathay Pacific – Air New Zealand alliance which was authorised by the New Zealand Ministry of

Transport in 2012.[34] In particular, the Ministry of Transport found that the alliance could result in reduced competition on the Auckland-Hong Kong route and consequently lead to higher fares and reduced capacity which would negatively impact business travellers on that route. Under the governing legislation, the Minister does not have the power to impose conditions to change the terms of the alliance, but the Minister may limit the period of authorisation. The Cathay Pacific – Air New Zealand agreement was authorised for three years and the carriers committed to cease the alliance if it is not re-authorised.

6. Carriers may be required to implement a proposed joint venture in a timely fashion and provide the U.S. DOT with proof that the joint venture has indeed been implemented. If carriers fail to comply with this requirement within a specified time period, the DOT would automatically revoke the grant of antitrust immunity.

7. Other remedies may require carriers to avoid exclusivity agreements with their alliance or joint venture partners (e.g., the American / LAN alliance which was immunised in 1999).

Table 5.1 provides a list of conditions imposed by the U.S. DOT on alliance partners as a condition of antitrust immunisation for several selected alliances involving U.S. carriers.

Note that Table 5.1 is a summary of *U.S.* review of the alliances. Potentially, the other country may also review the proposed alliance. This will generally be the case for European countries, Australia, Canada, New Zealand and others with long established competition authorities. In much of the rest of the world, either competition law itself is relatively new or application of competition law to air transport is new.[35] Most of the older alliances were not reviewed by competition authorities in emerging markets but more recent are likely to have been reviewed and any new alliances are likely to be reviewed.

For example, the 1999 alliance between LAN and American Airlines (the first alliance in Table 4.1 was not reviewed by the Chilean competition authority (currently the National Economic Prosecutor's Office - FNE).[36] But with changes in government policy and competition law/jurisprudence, we are advised that if such an alliance were to be proposed today it would likely be reviewed by the FNE.

An example of the recent development of competition review of airline alliances in emerging nations is the recent review and approval (with restrictions) of LATAM Airlines Group, the holding company LAN of Chile and TAM of Brazil.[37] Brazil and Chile each conducted reviews of the merger,[38] with Chile

34 Australia has also typically placed time limitations on alliances, starting with the 1994 British Airways – Qantas alliance, to the more recent Virgin Australian alliances with Air New Zealand and separately with Tiger Airways Australia.

35 A review of competition law and competition authorities can be found in *Competition Law and Policy in Latin America: Peer Reviews of Argentina, Brazil, Chile, Mexico and Peru,* OECD, 2006. It is available at http://www.oecd.org/countries/peru/37976647.pdf. A list of national competition authorities can be found at http://r0.unctad.org/en/subsites/cpolicy/english/nat-compaut.htm.

36 The NEPO conducts competition law investigations, and if contested, Chile has a judicial Competition Tribunal, a governance model similar to that in Canada and Australia – a competition authority with a tribunal to review the authority's decisions, if contested. The U.S. also has an equivalent of a competition commission (the Dept. of Justice antitrust division in general, and the DOT for aviation alliances and mergers), but with review by the courts rather than a specialized competition tribunal.

37 LATAM also has airline subsidiaries in Argentina, Colombia, Ecuador, Paraguay and Peru.

granting approval with 11 restrictions on 21 September 2011,[39] and Brazil (Administrative Council for Economic Defence - CADE) granting approval with similar restrictions on 14 December 2011. The restrictions included surrendering 4 slots at Sao Paulo Guarulhos Airport, withdrawal from either oneworld or Star Alliance (the latter was chosen), restricting capacity on flights between Brazil and Chile, and creating code sharing and loyalty program membership opportunities for competitors.

Table 5.1. **Selected US DOT Immunised Airline Alliances with a Summary of Conditions/Remedies Imposed by U.S. DOT**

Immunised Alliance	Agency / Decision	Conditions
American / LAN Airlines	US DOT / granted immunity in 1999	US DOT conditions: 1. Carriers must not coordinate activities on Miami-Santiago (the carve out condition). Subject to review within 18 months. 2. Immunity is conditional upon implementation of the open skies agreement between Chile and the U.S. 3. Immunity does not extend to the carriers' interest in CRSs (Sabre and Amadeus Chile) 4. Carriers must not enter into exclusivity agreements preventing either carrier from marketing or interlining with third-party U.S. or Chilean carriers. 5. Carriers must re-submit the current alliance agreement for review within 3 years. 6. Carriers must withdraw from IATA tariff coordination with respect to the U.S.-Chile market. 7. Carriers must report O&D market data and submit any subsidiary or subsequent alliance agreements for approval.
American / LAN / LAN Peru	US DOT / granted immunity in 2005	US DOT conditions: 1. Carriers must withdraw from IATA tariff coordination with respect to the U.S.-Peru and U.S.-Chile markets. 2. Carriers must submit O&D market data (on a confidential basis). 3. Immunity applies to joint marketing of services via CRSs, but not to management of the carriers' interest in individual CRSs. 4. Any other conditions from the American/LAN immunity continue to apply.

38 Strictly speaking, the formation of LATAM is not a merger but rather that of creating a holding company with agreements between the carriers. The competition authorities in the two countries nevertheless did their antitrust reviews using merger evaluation criteria.

39 Chile's Tribunal de Defensa de la Libre Competencia de Chile (TDLC), Chile's antitrust court, reviewed the Alliance/Merger and imposed the competition conditions. The airlines and the Chilean competition authority had reached a general agreement on conditions for the alliance/merger, but the carriers appealed to the TDLC regarding three of the restrictions. LAN appealed against three of the conditions but Chile's Supreme Court subsequently upheld the ruling in April 2012, rejecting the appeal. This alliance/merger was also reviewed (and approved) by the Spanish competition authority, the Fair Trading Service.

American / British Airways / Iberia / Finnair / Royal Jordanian	US DOT / granted immunity in 2010 US DOT also approved within this broad alliance the transatlantic joint venture between American, British Airways and Iberia. European Commission / approved the transatlantic JV in 2010	US DOT conditions: 1. Carriers must transfer 4 pairs of slots to competitors at Heathrow airport. 2. Carriers must implement the transatlantic joint venture in a timely fashion. 3. Carriers must provide reports on the progress of the alliance. 4. Carriers must submit O&D market data. 5. Carriers must withdraw from IATA tariff coordination with respect to any markets between the U.S. and countries whose airlines have received immunity. 6. Immunity does not extend to the carriers' interest in CRSs (CRS management functions are separate from the alliance). 7. Prior approval must be sought for common branding. 8. Carriers must follow standard code-sharing procedures. 9. Immunity is conditional upon the implementation of the U.S.-EU open skies agreement.
American / Japan Airlines and United / Continental / ANA	US DOT / granted immunity in 2010	US DOT conditions: 1. Immunity is conditional upon implementation of the U.S.-Japan open skies agreement. 2. Carriers must submit all subsidiary or subsequent alliance agreements. 3. Carriers must submit their respective alliance agreements and statements verifying that the agreements have been implemented within 18 months. Failure to meet this requirement would result in automatic expiry of immunity. 4. Carriers must withdraw from IATA tariff coordination with respect to any markets between the U.S. and countries whose airlines have received immunity. 5. Carriers must file O&D market data (on a confidential basis).
Delta / Virgin Atlantic / Air France-KLM / Alitalia	US DOT / granted immunity in 2013 US DOT also approved within this broad alliance the North America-UK joint venture between Delta and Virgin Atlantic	US DOT conditions: 1. Carriers must submit all subsidiary and subsequent alliance agreements. 2. Carriers must submit the five-way alliance agreement and the JV agreement for review within 5 years. 3. Delta and Virgin Atlantic must submit the JV agreement and a statement verifying implementation within 12 months. Failure to meet this requirement will result in automatic expiry of immunity. 4. Carriers must withdraw from IATA tariff coordination with respect to any markets between the U.S. and countries whose airlines have received immunity. 5. Carriers must file O&D market data (on a confidential basis).
United / Lufthansa	US DOT / granted immunity in 1996	US DOT conditions: 1. Carriers must not coordinate activities on Chicago/Frankfurt and Washington/Frankfurt (the carve-out condition). 2. Carriers must withdraw from IATA tariff coordination with respect to the U.S.-Germany market. 3. Carriers must report O&D market data and submit any subsidiary alliance agreements (on a confidential basis). 4. Immunity does not extend over the carriers' interests in CRSs (Apollo/Galileo and Amadeus/START).

United / Air New Zealand	US DOT / granted immunity in 2001	US DOT conditions: 1. Carrier must not coordinate activities or pool revenues on the Los Angeles-Auckland and Los-Angeles-Sydney routes. 2. Carriers must resubmit the alliance agreement for review within 5 years. 3. Carriers must withdraw from IATA tariff coordination with respect to the U.S.-New Zealand market. 4. Carriers must file all subsidiary and subsequent alliance agreements. 5. Carriers must report O&D market data (on a confidential basis). 6. Immunity does not extend over the carriers' respective interest in CRSs (Sabre and Galileo). 7. Carriers must seek approval to operate under a common brand.
Continental / Copa	US DOT / granted immunity in 2001	US DOT conditions: 1. Carriers must withdraw from IATA tariff coordination with respect to the U.S.-Panama market 2. Carriers must file all subsidiary and subsequent alliance agreements with DOT. 3. Carriers must resubmit the current alliance agreement for review within 5 years. 4. Carriers must report O&D market data (on a confidential basis).
Air Canada / Austrian / bmi / Continental / Lufthansa / LOT / SAS / Swiss / TAP / United	US DOT / granted immunity in 2009 US DOT also approved within this broad alliance the Atlantic Plus Plus (A++) joint venture between Air Canada, Continental, United and Lufthansa.	US DOT conditions: 1. A++ carriers must file the A++ agreement and statement that is has been implemented within 18 months. Failure to meet this requirement would result in automatic expiry of immunity. 2. Carriers must not coordinate activities on selected transatlantic routes; selected Canada-U.S. transborder routes; and selected transpacific routes (the carve-out condition). Carve-outs may be removed if new meaningful entry occurs (5 weekly roundtrip service during 9 months). 3. Carriers must withdraw from IATA tariff coordination with respect to markets between the U.S. and countries whose airlines have been granted ATI. 4. Carriers must report O&D market data for all itineraries that include a U.S. point.

5.3 Institutions Involved in Authorising Alliances in Selected Jurisdictions

Institutional frameworks as well as legal and regulatory regimes that govern reviews and approvals of airline alliance differ from one jurisdiction to another. In many countries airline alliances are reviewed by a designated competition authority which ensures compliance with competition laws of general application. The competition authority will make a decision whether to block or challenge in court an airline alliance based on the law, jurisprudence and its enforcement policy. Canada, Australia and the European Union are examples of jurisdictions where general competition laws are applied by the respective antitrust authorities to review airline alliances.

The Competition Bureau of Canada has a broad jurisdiction to review domestic airline mergers (e.g., Air Canada-Canadian Airlines), international airline alliances and joint ventures (e.g., Air Canada-United/Continental) and other forms of cooperation in the various segments of the airline industry (e.g., Gemini Computer Reservation System). The Australian Competition and Consumer Commission (ACCC) conduct similar reviews. If the competition authority and alliance carriers are unable to reach an

agreement by consent, the matter can be brought before a special court, the Competition Tribunal, which will make a determination on the legality of the alliance by applying the substantive principles of competition law.

In Europe, an investigation of an international airline alliance can be initiated by the Directorate General for Competition of the European Commission at its discretion either on its own initiative or after receiving a complaint. The European Commission has a joint responsibility with the national competition authorities of EU member states to enforce compliance with the EU competition rules. The competition rules, set out in the Treaty of the Functioning of the European Union (the EC Treaty), prohibit anti-competitive mergers, business practices or abusive behaviour by dominant firms that may restrain trade between EU member states or restrict competition in the EU market.

In 2004, the European Commission obtained jurisdiction to investigate international air transport between the EU and third countries under the general framework of the EU competition rules (prior to that the EC did not have full procedural and investigative powers). Similar to Canada and Australia, the European Commission has the mandate to enforce competition laws across all industries and with respect to different types of conduct (mergers, cartel agreements, abusive behaviour by dominant firms, etc.).

In some countries, the responsibility to enforce antitrust laws and implement antitrust policy is shared by a number of government agencies. Thus, the antitrust system in Brazil is overseen by three administrative bodies that share a joint responsibility to enforce antitrust law. Those include the Ministry of Justice, the Ministry of Finance and the national antitrust authority.[40]

A different institutional framework for reviewing airline alliances exists in the United States. The U.S. Department of Transport (DOT) has the statutory authority to review, approve and immunize from U.S. antitrust laws international airline alliances. Carriers can seek immunity from U.S. antitrust laws by submitting requests for antitrust immunity (ATI) to the DOT. The DOT will approve an alliance arrangement if it is consistent with the public interest. Even where an alliance can harm competition, the DOT may still approve it if two conditions are met:

> 1) the agreements are necessary to meet a serious transportation need or to achieve important public benefits and 2) if the need for those benefits cannot be met or achieved by reasonably available alternatives that are materially less anticompetitive.[41]

In exercise of its statutory powers, the DOT has granted antitrust immunity to over 20 airline alliance agreements involving U.S. carriers. A summary of immunised alliances is provided in Appendix B.

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40 The institutional framework for the enforcement of antitrust laws and policy in Brazil consists of three agencies: the Secretariat for Economic Law of the Ministry of Justice (SDE), the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE) and the Administrative Council for Economic Defense (CADE).

41 U.S. Code § 41309, section 41309(b)(1)(A) and (B). The text in full is: *(b) Approval.— The Secretary of Transportation shall approve an agreement, request, modification, or cancellation referred to in subsection (a) of this section when the Secretary finds it is not adverse to the public interest and is not in violation of this part. However, the Secretary shall disapprove—*
(1) or, after periodic review, end approval of, an agreement, request, modification, or cancellation, that substantially reduces or eliminates competition unless the Secretary finds that—(A) the agreement, request, modification, or cancellation is necessary to meet a serious transportation need or to achieve important public benefits (including international comity and foreign policy considerations); and (B) the transportation need cannot be met or those benefits cannot be achieved by reasonably available alternatives that are materially less anticompetitive; (…)

Airlines that get an explicit exemption from U.S. antitrust laws can engage in practices such as joint pricing, scheduling and marketing, as if the alliance partners were a single carrier. Antitrust immunity essentially allows airlines to eliminate all competition between them and act as a single carrier. Barring the exemption, those practices would violate U.S. antitrust laws. In recent years, the DOT has granted immunity to larger groups of carriers in all three major international alliances, with the result that the predominant share of transatlantic passenger traffic between the United States and the European Union is carried by airlines that operate with an antitrust immunity.[42]

The U.S. Department of Justice has a broad jurisdiction to enforce the antitrust laws of the United States, but it does not extend to international airline alliances. When the U.S. Congress transferred jurisdiction over airline mergers from the DOT to the DOJ in 1988, the DOT retained the statutory authority to approve and immunize agreements relating to international air transportation. There is no corresponding authority for DOT with regard to domestic alliances or mergers between U.S. carriers, and domestic alliances generally don't have antitrust immunity.[43] Thus, international airline alliances are reviewed by the DOT with the DOJ acting as an advisor on competition matters. The roles of the two departments are reversed in reviews of domestic airline alliances and mergers where the DOJ is the primary reviewing agency but it relies on data and information that carriers regularly provide to the DOT in order to conduct competition analysis. The DOJ does not have a policy specific to airline mergers and reviews domestic mergers or alliances in the airline industry under the same standards as any other industry.

With respect to international airline alliances, the two departments work together to assess the competitive impact, with the DOJ acting as an advisor to the DOT. It is important to note that the Antitrust Division of the DOJ has commented adversely on revenue-sharing joint ventures and cautioned against granting broad antitrust immunity to carriers wishing to engage in such forms of cooperation. However, the lack of jurisdictional authority over international alliances limits the ability of the DOJ to seek remedies to mitigate the impact of revenue-sharing joint ventures on competition in the United States.

The process of reviewing and granting antitrust immunity to international airline alliances in the United States is unique in a number of ways:

- **The process is public and transparent**. In the United States, the process of reviewing requests for antitrust immunity is public in nature. Antitrust requests are submitted by application in a public docket and interested parties have an opportunity to comment on the impacts of a proposed alliance in a public proceeding. All records are made public and the DOT issues a final public written decision with detailed reasoning within six months. In many other jurisdictions, the antitrust review process is conducted by the designated competition authority in private and the particulars are not disclosed to the public at large (unless the alliance is challenged in courts).

- **The U.S. DOT uses a broad public interest test in antitrust immunity reviews**. The DOT reviews alliance proposals under a public interest standard, which allows it to consider broader factors than the impact on competition in the process of evaluating alliances. Public interest considerations may include broader foreign policy objectives (e.g., a free trade agenda), opportunities to expand international air service and a serious need for public transportation in certain communities, among other things. Based on the public interest test, the DOT may

42 Gillespie William and Oliver M. Richard, "Antitrust Immunity and International Airline Alliances", U.S. Department of Justice Economic Analysis Group, Discussion Paper, February 2011.

43 Gillespie William and Oliver M. Richard, "Antitrust Immunity and International Airline Alliances", U.S. Department of Justice Economic Analysis Group, Discussion Paper, February 2011.

determine, and grant antitrust immunity based on the determination, that an alliance benefits consumers even though it may have the potential to harm competition. Other jurisdictions such as Canada and Europe use a competition test to determine whether to allow an international alliance.

- **Ex ante versus ex post antitrust analyses.** The DOT can grant airlines antitrust immunity to operate an alliance, which protects the alliance from private and public challenges in court and provides companies with legal certainty (ex-ante review). By contrast, the majority of jurisdictions including Canada and Europe can review and challenge an airline alliance after it has been concluded by airlines, leaving the competition authorities with a broad margin of discretion and powers to dissolve existing alliances (ex post review). In practice, airlines seek antitrust clearance from the respective competition authorities of countries whose airlines are joining an alliance prior to implementing the alliance in order to minimize or eliminate the risk of future antitrust challenge.

5.4 Legal and Regulatory Framework in Selected Jurisdictions

United States

As discussed in section 3.2, the U.S. DOT has a statutory authority to review and approve international airline alliances in the United States. Under U.S. law, the regulator will approve an inter-carrier alliance if it is consistent with the public interest.

Essentially, the U.S. DOT undertakes a two-stage analysis when reviewing requests for antitrust immunity. In the first stage, the regulatory agency will determine whether a proposed alliance violates antitrust laws, in other words whether it can negatively affect competition in the air transport market. The DOT has stated that it is not their policy to confer antitrust immunity simply on the grounds that an agreement does not violate antitrust laws. If the agreement is found to violate antitrust laws, the regulator will undertake further analysis to determine if it is desirable from a public interest perspective. In the second stage, the regulator will consider whether the agreement is in the public interest taking into account such factors as a transportation need that cannot be achieved without the agreement, the objectives of foreign policy or obligations under international comity. The U.S. DOT will make an exception for international alliances that substantially reduce or eliminate competition if such alliances are consistent with the broader public interest.

The legal framework for reviewing international airline alliances in the United States is unique and distinct from many other jurisdictions where a competition test is applied to determine if an alliance should be authorised.

As a matter of policy, a critical factor that the DOT will take into account when granting antitrust immunity is whether the countries of the alliance partners signed an open skies agreement with the United States. In addition, the DOT has a tendency to grant antitrust immunity to airline alliances that involve at least one or more U.S. carriers (a notable exception is the ATI conferred on the alliance between Scandinavian Airlines and Icelandair). [44]

44 ICAO, ”Antitrust Immunity for Airline Alliances”, ATCONF, 18-22 March 2013, p. 2.

Europe

The European Commission reviews international airline alliances under EU competition laws, laid out in Articles 101 and 102 of the EC Treaty. EU competition laws are aimed at promoting a common market, protecting competition and consumer welfare. The rules under Articles 101 and 102 of the EC Treaty apply to all industries and are not specific to airline markets.

Article 101 prohibits agreements or concerted practices restraining trade between the EU member states or distorting competition in the EU market. Article102 prohibits abusive practices by dominant firms that affect the EU market. An agreement between competitors that restricts competition may still be allowed if it creates sufficient benefits transferred in full or in part to consumers. Agreements establishing airline alliances may fall under either of those articles.

As discussed earlier, prior to 2004 the Commission lacked effective enforcement powers to apply EU competition laws to international airline alliances. However, following the change in 2004, the Commission received jurisdiction to investigate conduct related to the provision of air transport services between the EU and third countries, including international airline alliances.

Canada

In Canada, the responsibility to review international airline alliances rests with the Competition Bureau pursuant to the provisions of the *Competition Act*. The *Competition Act* is a statute of general application which covers all industries, including the airline industry. The Competition Bureau has jurisdiction to review domestic airline mergers and international airline alliances.

The *Competition Act* establishes rules that are applied in reviews of international airline alliances, among which are rules applicable to reviews of mergers and collaborative agreements between competitors.

Australia

In Australia, the Australian Consumer and Competition Commission (ACCC), a competition authority charged with enforcement of national competition laws, reviews international airline alliances. The relevant law applicable to strategic alliances and equity mergers and acquisitions is set out in the *Trade Practices Act*.

The *Trade Practices Act* is a law of general application which covers a broad range of conduct (anticompetitive practices, product liability, access to essential facilities and international liner cargo shipping, among other things) and applies to all industries including the airline industry.

Under Australian laws, the competition authority may provide an “authorisation” to carriers to operate an alliance, even though the alliance may violate competition laws. Similar to the public interest test used by the U.S. DOT in deciding whether to grant antitrust immunity, carriers must show that the alliance in question is in the public interest in order to obtain authorisation from the ACCC. Unlike U.S. antitrust immunity, authorisations are not limited to specific industries in Australia.

Mexico

In Mexico, the responsibility to ensure compliance with competition laws rests with the Mexican Federal Economic Competition Commission (*La Comisión Federal de Competencia Económica*) that has the mandate to enforce competition laws across different industries, including the airline industry. The Competition Commission has reviewed merges and alliances in the airline industry on several occasions,

most notably the 2007 application for merger between two domestic carriers Aeromexico and Mexicana and the 2012 equity investment by Delta Air Lines in Grupo Aeromexico. The Competition Commission has jurisdiction over domestic airline mergers, international alliances and equity purchases by foreign carriers in Mexican carriers.

5.5 International Competition Authority Co-operation?

A key consideration in effective application of national antitrust laws to airline alliances is to ensure that the review process is aligned across different jurisdictions. Airline alliances are international by nature but there exists no international body or international regime for alliance review. Coordination of antitrust reviews between different jurisdictions becomes critical for creating a transparent and predictable environment to encourage growth in international air transport and protecting competition at the same time. Extraterritorial application of national antitrust laws will impact foreign carriers and may create conflict with the legal and regulatory framework of another jurisdiction.

Some jurisdictions have sought and entered into partnerships with their counterparts to coordinate antitrust reviews. A commitment to enhanced cooperation may be enshrined in a bilateral ASA. The U.S.-Europe Air Transport Agreement formalised cooperation between the European Commission and the DOT on matters related to competition; the countries agreed to enhance cooperation and aim to minimise potential conflicts in the application of the respective antitrust regimes to airline alliances.[45]

Coordination can be more extensive when alliance partners file for immunity simultaneously in multiple jurisdictions and request coordination in pre-filing talks with the competition authorities. Competition authorities in European countries respond positively to such requests and are inclined to coordinate because their competence is shared with the European Commission's Competition Directorate.

While competition authorities may exchange certain documents and have some general discussions (e.g., explaining their respective approaches to the investigation), usually each competition authority conducts a separate review. There are a number of reasons why ATI investigations are conducted separately by each nation. Among these are:

- The laws of each nation differ and accordingly the criteria to be applied differ in each nation. For example, some nations use a pure economic efficiency criteria, meaning that transfers of benefits from consumers to producers are not a reason to deny an ATI application so long as maximum economic efficiency is obtained. [46]Other national laws or jurisprudence consider transfers of 'surplus' from consumers to producers in their competition assessments. This is one reason why New Zealand denied the ATI immunity request of a proposed alliance between Qantas and Air New Zealand, while the Australian Competition Tribunal approved the alliance.

- In addition to different laws, the administrative processes are different. In the U.S., the DOT reviews alliance ATI requests via a show cause process, where almost all documents are publicly available, including much of the data requested from the applicants. In contrast, in many other

45 The European Commission and the U.S. DOT, "Transatlantic Airline Alliances: Competitive Issues and Regulatory Approaches", 16 November 2010, p. 12.

46 A discussion of the meaning and measurement of 'economic efficiency' is beyond the scope of this paper. Roughly speaking, a market will be found to have achieved economic efficiency when some consumers are paying prices that are equal to the marginal costs of providing service. In the airline industry, with its widespread use of price discrimination, this does not mean that average fare revenue is equal to marginal cost.

nations, ATI reviews are confidential proceedings, with data that is requested from the carriers protected.

- The US ATI reviews are conducted by the DOT, not the DOJ. While the DOJ has various types of general coordination arrangements with their counterpart competition authorities in some other nations, this is not the case with the DOT.[47] In 2010, however, the DOT conducted a joint study with the European Commission to promote a common understanding of the transatlantic airline industry and to foster enhanced coordination of "regulatory approaches in the competition issues in the airline sector".[48] This step signals an effort by the U.S. regulator to seek greater cooperation with its foreign counterparts in reviews of international airline alliances. However, there remain significant differences in the approaches to the competition assessment of air transport markets between the U.S. DOT and competition authorities in other jurisdictions, and each nation conducts its own review based on its own competition laws.

- In some nations, certain ATI requests are reviewable by the competition authority, while in others they are not. In New Zealand, the Commerce Commission has no duty to review ATI requests that do not involve domestic markets. Such requests can be granted directly by the Minister of Transport.

- There are some international agreements of broad principle on the way competition law should be applied, designed to reduce the incidence of damage to economic and international business interests as a result of differences in implementation. The European Union and the US made such an agreement in 1991, revised and extended in 1995.[49] (This agreement was with the U.S. Department of Justice, not the Department of Transport.) At the same time, concern with the US policy to apply its competition law extra-territorially is sometimes voice. For example, Havel (2009) commented:

> *"The AEA's policy statement on a Transatlantic Common Aviation Area … foundered on the rock of U.S. dislike of regulatory convergence. U.S. government officials repeated and emphasised this dislike at the Nov. 2007 Working Group meeting in Dublin, Ireland. … U.S. resistance cuts through a wide swath of regulatory issues, including safety, security and the environment, but was most vigorously manifested with respect to the AEA's call for supranational competition rules and enforcement."*[50]

Some examples of alliance reviews underscore the limited, if any, coordination of ATI approvals by different nations:

47 A subtle but important point is that the U.S. Dept. of Justice is the actual enforcer of much antitrust law (the Federal Trade Commission also has a role), while the DOT role is confined to granting immunity from enforcement.

48 The U.S. DOT and the European Commission, "Transatlantic Airline Alliances: Competitive Issues and Regulatory Approaches", 16 November 2010, p. 1.

49 1991 Agreement between the European Communities and the Government of the United States of America on the Application of positive comity in the enforcement of their competition laws; 1995 Decision of the Council and the Commission concerning the conclusion of the Agreement between the European Communities and the Government of the United States of America regarding the application of their competition laws, 95/145/EC.

50 Brian F Havel (2009), Beyond Open Skies: a new regime for international aviation, Wolters Kluwer. See footnote 93.

- The 1994 ATI application of Qantas and British Airways was carefully scrutinised by the Australia Consumer and Competition Commission (initially denied, then later approved with undertakings) but the UK and EU authorities found no reason to review the request.

- Canada and New Zealand competition authorities reached different conclusions regarding a request by Air Canada and Air New Zealand to enter into an ATI approved alliance.

- Australia and New Zealand conducted separate investigation of various alliances, including Qantas-Air New Zealand, and Air New Zealand-Virgin Australia. The former was reviewable by the New Zealand Commerce Commission, which denied the request, whereas the latter was reviewed only by the New Zealand Minister of Transport.

- The U.S. and Canada conducted their own separate reviews of a request for ATI for a proposed Air Canada – United venture for antitrust routes.

- The American Airlines – British Airways proposed alliance was reviewed separately by the UK Competition Commission (formerly the Monopolies and Mergers Commission) and the US DOT.

The case of Air Canada-United-Continental's transborder joint venture is illustrative of the differences in processes and approaches in Canada and the United States and will be discussed in some detail.

Air-Canada United-Continental Joint Venture

The United States and Canada required two rounds of negotiations to conclude a full open skies treaty which was signed in 2007. Most recently, Air Canada and United Continental Holdings (United and the former Continental Airlines) applied for anti-rust immunity for a revenue sharing joint venture that would apply to Canada-U.S. trans-border routes as well as behind and beyond routes.

While regulatory barriers to entry have been substantially alleviated by the implementation of the open skies agreements between Canada and the United States, the trans-border market continues to be dominated by full-service legacy carriers. There has been no meaningful entry by low-cost carriers. In addition, increased presence of Star Alliance carriers can be observed in the trans-border market, particularly following Continental's entry into the Star Alliance in 2009. Immunised Star Alliance members control more than 50% of passenger traffic on trans-border routes. At the same time, non-Star carriers have downsized their operations in the trans-border market over time.

In the fall of 2010, Air Canada and United Continental Holdings Inc. publicly announced a revenue-sharing joint venture that would apply to all trans-border routes between Canada and the US. Essentially, under the joint venture the carriers intend to integrate their operations on trans-border routes in a manner that would eliminate all competition between them and would make carriers indistinguishable from a passenger's perspective.

As joint ventures such as the proposed Air Canada-United commercial agreement possess inherent anticompetitive features, they required approval from U.S. and Canadian antitrust regulators.

In exercise of its statutory authority, the U.S. DOT found joint venture between Star carriers to be consistent with the public interest and granted broad antitrust immunity to a core group of Star carriers (which includes Air Canada and United-Continental) to partner in joint ventures and other forms of alliances. In relation to the trans-border joint venture, several conditions imposed on previous alliances

between Air Canada, United and Continental prevented the carrier from coordinating activities on selected trans-border routes under the joint venture. Those remedies were not sufficient to ensure vigorous competition in the trans-border market from the point of view of the competition authority in Canada.

While Canada was concerned with potential dominance of US carriers after open skies, in practice, Air Canada emerged as the largest carrier providing trans-border Canada-US services, including substantial 6th freedom traffic which Air Canada connected between the US and Europe (to a lesser extent Asia).

The Competition Bureau of Canada conducted an independent investigation of the proposed partnership and found it to be in violation of Canada's competition laws, which led to a subsequent challenge of the joint venture before the Competition Tribunal. Approval was ultimately obtained from each country, based in part on provisions in the ASA, but the process and law was different in the two jurisdictions. In Canada, the competition authority granted clearance to the joint venture only after a mutual agreement was reached with the carriers under which they agreed not to coordinate activities on a number of trans-border routes to address concerns over competition and impacts on travellers, particularly on business passengers.

Annex A. The impact of alliances on social welfare: A theoretical & empirical assessment

A.1 Introduction

Much research has been conducted into the effects of the deregulation of the air transport industry. Brueckner and Pels (2003) identified three main effects: the development of hub and spoke networks, the rapid rise of low cost carriers and the emergence and growth of international airline alliances (Brueckner and Pels, 2003). Some experts consider the latter as a reaction of full-service carriers to growing competition from low cost carriers. However, even though full-service carriers did initiate most alliances, a small but growing number of low cost carriers is participating in alliances as well.

Many alliance forms exist in the airline industry. The purest form is a full merger between two carriers into one organization under control of one board. Other examples are joint ventures, code sharing, flight schedule coordination and routes agreements. A joint venture alliance is an agreement between carriers to engage in comprehensive revenue sharing on international routes (Brueckner & Proost, 2010). Code sharing means that a trip is ticketed as if it occurred on a single carrier, even though some of the route segments are operated by the codeshare partner (Brueckner, 2003). In the case of flight schedule coordination carriers tune their arrival and depart structure in favour of the consumer, resulting in a decrease in transfer time and better gate connectivity for example.

Alliance formation is generally considered as way for carriers to expand their networks and therefore better exploit economies of density and reduce fixed costs in the markets (Pels, 2001).

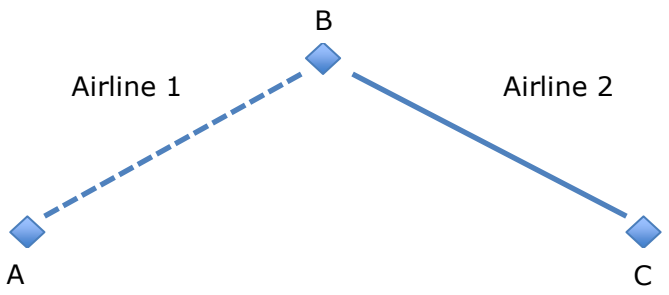
They can take many different forms. The impact of an alliance on society depends on the form and alliances therefore need to be judged on a case-by-case basis. Parallel alliances are agreements between carriers with overlapping networks that compete on the same routes. Complementary alliances are agreements between carriers that do not have overlap in their networks and do not compete on the same routes. Instead, they add up their existing networks.

In order to assess these possibilities and threats of alliances a short review of airline network economics will be provided in annexes

A.2 Alliance between airlines with complementary networks

The most simple network structure without alliances is illustrated in figure 1.A1. This case assumes three city-pair markets AB, BC and AC and two airlines. In addition, the length of links AB and BC are equal and so are the economies of density in their markets. Economies of density can be described as the cost savings achieved by increasing the traffic density on a certain route, for example through higher airplane capacity and frequency. Airline 1 operates route AB and airline 2 operates route BC. Passengers willing to travel from A to C thus need to fly airline 1 on the AB link and airline 2 on the BC link. Moreover, given that the airlines do not form any alliance, both airlines set the fare that maximizes their profits. So the sum of these two sub-fares is what passengers will pay from flying route AC (Brueckner, 2001).

Figure 1.A1. **Network structure in simplest form**



A simple example of game theory can show us that this will probably lead to a non-optimal outcome from the consumer point of view. If, for example, airline 1 increases its sub fare on route AB, this will lead to a higher AC fare, which will result in a decrease in traffic. The increase in earnings per passenger will probably offset the loss due to the decrease in traffic for airline 1, otherwise it would not have increased its fare in the first place. Airline 2 will now face a decrease in traffic and thus a decrease in revenues unless it raises its fares as well. In order to keep the operation profitable it could also decide to lower the cost by reducing capacity. However, this which will lead to higher cost per passenger, given positive economies of density. As a result, it might be still forced to increase its fare. All in all, the consumer will be worse off because of the non-cooperative sub-fares that generate negative externalities. This also referred to as the double marginalization problem in the literature. In this case an alliance could be beneficial as it could internalize the externalities by an agreement to set the overall fare together and share the revenues from the market (Brueckner & Whalen, 2000). Additionally, the agreement could also provide the consumer with better connectivity, one-time check-in of luggage, etc..

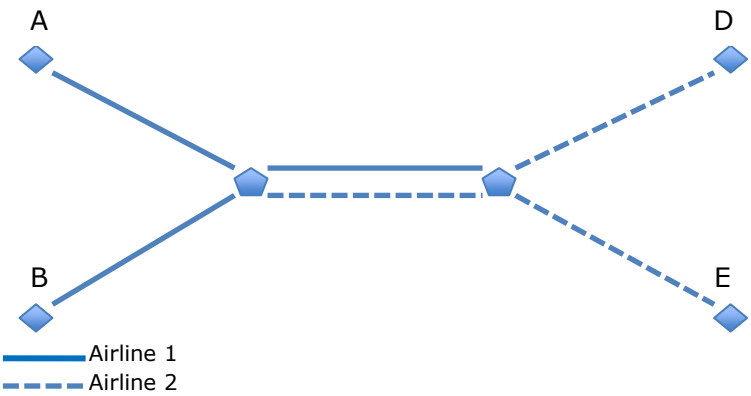
A.3 Alliances between airlines with partly overlapping networks

The model in Figure 1.A1. can be expanded by including more city-pair markets in order to create a slightly more realistic model as illustrated in Figure 2.A.1. In this model 15 city-pair markets exist (AB, AC, BC, DF, DE, EF, AD, AE, BD, BE, CD, CE, AF, BF, CF) and airline 1 operates airport C as a hub, while airline 2 operates airport F as a hub. The length of each link and its economies of density are again assumed to be equal. Furthermore, the price of two single tickets on route AB (a ticket for AC and one for BC) is at least equal or more expensive than the sum of the sub-fares. It is also assumed that passengers have a clear preference for their 'home' carrier (for more information on this; see Borenstein (2013) or Pels (2005).

Again, a passenger travelling from A to E has to pay a fare that consists of the subfare for the AF part to airline 1 and the sub-fare for the FE part to airline 2. By the same logic as described above, this situation could lead to a non-optimal outcome due to double marginalization.

However, unlike in Figure 1.A1. in which the networks were fully complementary, Figure 2.A1. includes link CF on which both airlines compete. This CF market is called the hub-to-hub market, the rest of the markets are called interline markets. The interline market benefits from an alliance because it removes the negative externalities. But for the hub-to-hub market an alliance results in less competition as the airlines now collaborate and basically behave as single airline on this market. This could lead to higher fares and less travel options for the consumers.

Figure 2.A1. **Expanded network structure**



A.4 Theoretical assessment of implications of alliances on social welfare

Economic theory generally assumes that maximizing social welfare should be the ultimate goal. Social welfare consists of the consumer surplus and the producer surplus. The first is defined as the different between the 'willingness to pay' of all consumers (represented by the demand curve) and the actual price they pay, while the producer surplus can assumed to be equal to the airlines' profits. The majority of studies in the literature uses the same mathematical equations for social welfare and it is generally accepted as a unit of measurement to express 'benefits or losses to society'.

Park (1997) elaborates on the impact of parallel and complementary alliances on social welfare. In his theoretical study parallel alliances refer to the collaboration between two firms that previously competed on the same routes (hub-to-hub markets). The partners integrate non-stop services on the route in a way that only one partner continuous to provide the service.

On the other hand, complementary alliances refer to the case where two firms link up their existing networks with no overlap and build a new complementary network to provide improved services for connecting passengers (interline market). His research unsurprisingly shows different effects on fares and consumer surplus for each type of alliance. The first (parallel) case clearly leads to less competition and therefore higher fares and the second (complementary) case clearly leads to better connectivity for the consumers and probably higher traffic density and therefore lower fares.

A.5 Empirical assessment of implications of alliances on social welfare

Interline market

Empirical studies are partly in line with Parks findings. They are quite clear on how alliance formation impacts the interline market. Studies from Armantier & Richard (2008), Bamberger & Carlton (2004), Bilotkach (2007), Brueckner & Whalen (2001), Brueckner (2001), Brueckner (2003) and Pels (2001) all conclude that in the interline market the fares will decrease after an alliance, while traffic will increase. Brueckner & Whalen (2001) and Brueckner (2001) find a fare decrease of 25%. Brueckner (2003) refers to the case of an alliance that has been granted antitrust immunity and even finds a fare decrease of 27%. Bamberger & Carlton (2004) find that average fares fall with 5 – 7 % in the interline market due to alliance formation and that traffic will go up by 6%. Moreover, Armantier & Richard (2008) conclude that code share agreements increase the consumer surplus of connecting passengers.

Hub-to-Hub market

Although the studies mentioned above do raise concerns of the potential anticompetitive effects for alliances in hub-to-hub markets, none of them show a clear increase in fares as a result of alliance formation. Brueckner & Whalen (2000) and Brueckner (2001) found a 5% increase in fares in the hub-to-hub market but this result was not statistically significant. However, the research of Armantier & Richard (2008) concluded that a code share agreement on the hub-hub-market would lead to a decrease in consumer surplus for the nonstop passengers. Moreover, Bilotkach (2007) concludes that an alliance that includes both scheduling agreements and pricing agreements decreases fares, while an alliance that only includes scheduling agreements leads to higher fares than in the case of no alliance. At last, Zou, Oum & Yu (2011) study the effects of alliance formation on the interline market on fares. They concluded that higher densities and double marginalization will decrease fares, but that better connectivity will result in a higher 'willingness to pay' by the consumers, leading to an increase in fares.

A.6 Extension 1: Real life networks

In the interline market alliance formation could eliminate negative externalities. But what about the case where airline 1 and airline 2 both served some of the same destinations that belonged to the interline market? Figure 3.A1 can illustrate this example.

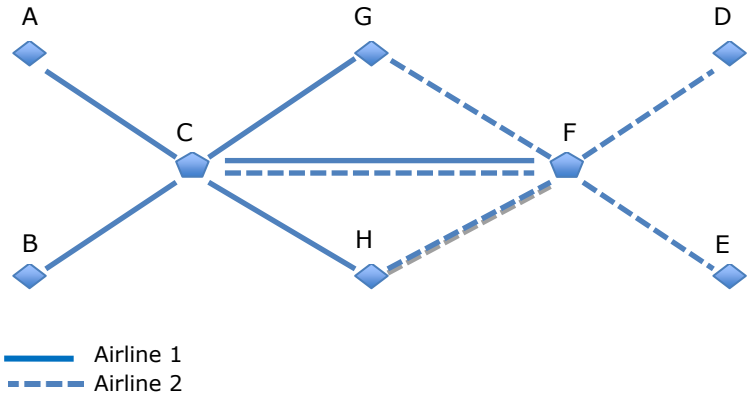
It is assumed that airline 1 serves A, B, C, G and H (C is operated as a hub), while airline 2 serves D, E, F, G and H (F is operated as a hub). If both airlines were to form an alliance, competition disappears on the CF market, but also on the routes to G and H. That is, prior to the alliance G could be reached from C and F by both airlines, directly and indirectly respectively. However, after the merger this form of competition has basically been eliminated as only one airline alternative remains on CF. The gains for society that can be generated from the alliance in the interline market (disappearing of negative externalities) thus have to outweigh both the loss of competition in the hub-to-hub market and the loss in competition on the routes to G and H.

This model is a more realistic representation of the markets that are affected by basically all existing alliances today. From this example it becomes clear that an impact analysis of an alliance should be conducted on a case by case basis and can become very complex. Brueckner (2003) states that in such networks the main question should be whether this competition loss in hub-to-hub markets is compensated by the gains in the interline market. That is, the efficiencies achieved by eliminating double marginalization have to outweigh the competition loss in the hub-to-hub market as well as the competition loss on the interline routes that both airlines served before the alliance.

Unfortunately, economic theory does not discuss the effect of an alliance between airlines whose networks are complementary, but also share some destinations in the interline market.

It appears that no empirical studies have focused on networks of this level of complexity.

Figure 3.A1. **Combined interline market network**



A.7 Extension 2: Antitrust immunity

If alliances collaborate in the provision for international service they may apply for antitrust immunity. Alliances that have been granted antitrust immunity can jointly set the fare for the combined route. As explained earlier this could eliminate the negative externalities and therefore lower fares on the interline markets. However, as a result the airlines will likely link up their hub cities and effectively act as one airline on the hub-to-hub market. This decreases competition and could result in higher fares. Although empirical studies do not show a direct result of higher fares in the hub-to-hub market due to antitrust immunity, the potential anticompetitive effects for the market should not be ignored. A way to deal with these anticompetitive effects is the use of carve-outs. Carve-outs function as remedies for unwelcome impacts from granting antitrust immunity. They should ensure that carriers can jointly set the fares on the interline markets, but are prohibited from collaborating in the hub-to-hub fare setting (Brueckner & Proost, 2010). This should result in the positive effects for the interline market without having the fear of competition loss in the hub-to-hub market. Bilotkach & Huschelrath (2011) state that elimination of double marginalisation can also be reached without the granting of antitrust immunity. They also express their worries about the use of carve outs due to their ambiguous effects. That is, carve outs can preserve competition on overlapping routes (hub-to-hub market), but at the same time they also prevents the realization of certain antitrust immunity efficiencies (Bilotkach & Huschelrath, 2011).

A.8 Extension 3: Merger

Brueckner and Pels (2005) studied the effect of a merger, the most pure form of an alliance, between Air France and KLM. As mentioned, an alliance can eliminate the negative externalities that are present in a no-alliance case and thus lead to lower fares for the consumer. However Air France and KLM had already formed alliances prior to the merger. Air France belonged to the SkyTeam alliance and KLM to the Northwest-KLM alliance. Therefore (most of) the positive effects associated with the formation of alliances in the interline market were already exploited.

Brueckner and Pels (2005) concluded that the merger increased Air France KLM's profit and thus the producer surplus, but that this was largely offset be a decrease in the consumer surplus, resulting in a lower social welfare. The reason for this was that the merger did not just decrease competition in the hub-to-hub market, but also in the European domestic market, the EU-US market and the market between interior European endpoints and US hubs and the other way around (Brueckner & Pels, 2005). Therefore the net result of this mega-alliance was a decrease of social welfare.

A.9 Conclusion

The large benefits from alliances arise from access to the behind and beyond markets. Elimination of double marginalisation is a benefit but schedule coordination and reduction in total trip times are the largest sources of benefit. Paradoxically, recent evidence suggests revenue sharing alliances produce higher net benefits than some weaker forms of alliance. This includes benefits to travellers as well as benefits to carriers. Many, although not all, alliances are therefore desirable from a socio-economic welfare perspective.

Annex B. List of abbreviations

A++	Atlantic Plus Plus
ACCC	Australian Consumer and Competition Commission
AEA	Association of European Airlines
ASA	Air service agreement
ATA	Air transport agreement
ATI	Antitrust immunity
CAB	Civil Aeronautics Board
CADE	The Administrative Council for Economic Defence (Chile)
DOJ	United States Department of Justice
DOT	United States Department of Transportation
EC	European Commission
EU	European Union
FNE	National Economic Prosecutor's Office, Chilean competition authority
GDP	Gross Domestic Product
GRU	Guarulhos International Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IT	Information technology
JBA	Joint business agreement
JFK	John F. Kennedy International Airport
MALIAT	Multilateral Agreement on the Liberalisation of International Air Transportation
MOU	Memorandum of Understanding
NAFTA	North American Free Trade Agreement
NZCC	New Zealand Commerce Commission
O&D	Origin and destination
OECD	Organisation for Economic Co-operation and Development
OECD-ITF	The International Transport Forum at the OECD
SDE	The Secretariat for Economic Law of the Ministry of Justice
SEAE	The Secretariat for Economic Monitoring of the Ministry of Finance
TDLC	Tribunal de Defensa de la Libre Competencia de Chile
U.K.	United Kingdom
U.S.	United States
UAE	United Arab Emirates

Annex C. U.S. Airline Alliances with Antitrust Immunity

Immunised Alliance	Open Skies Agreement (date signed)
American/ LAN Airlines	U.S.-Chile (October 28, 1997)
American/ Finnair	U.S.-Finland (June 9, 1995)
American/ LAN/ LAN Peru	U.S.-Peru (June 10, 1998); U.S.-Chile (May 1, 2001)
American/ British Airways/ Iberia/ Finnair/ Royal Jordanian (Oneworld Transatlantic Case)	U.S.-EU (April 30, 2007)
American/ Japan Airlines	U.S.-Japan (MOU December 11, 2009)
Delta/ Air France-KLM/ Alitalia/ Czech Airlines	U.S.-Czech Republic (December 8, 1995); U.S.-Italy (November 11, 1998); U.S.-France (October 19, 2001)
Delta/ Korean Air Lines/ Air France-KLM/ Alitalia/ Czech Airlines	U.S.-Republic of Korea (April 23, 1998); U.S.-Czech Republic (December 8, 1995); U.S.-Italy (November 11, 1998); U.S.-France (October 19, 2001)
Delta-Northwest/ Air France-KLM/ Alitalia/ Czech Airlines (SkyTeam II Case)	U.S.-EU (April 30, 2007)
Delta/ Virgin Blue Group	U.S.-Australia (March 31, 2008)
Delta/ Virgin Atlantic/ Air France-KLM/ Alitalia	U.S.-EU (April 30, 2007)
Northwest/ KLM	U.S.-Netherlands (October 14, 1992)
United/ Lufthansa	U.S.-Germany (February 29, 1996)
United/ Lufthansa/ SAS	U.S.-Denmark, Norway and Sweden (June 16, 1995)
United/ Air Canada	U.S.-Canada (1996)
United/ Air New Zealand	U.S.-New Zealand (June 18, 1997)
United/ Austrian/ Lufthansa/ SAS	U.S.-Austria (June 14, 1995)
United/ Copa	U.S.-Panama (May 1997)
United/ bmi/ Austrian/ Lufthansa/ SAS	U.S.-EU (April 30, 2007)
United/ Asiana	U.S.-Republic of Korea (April 23, 1998)
United/ Lufthansa/ SAS/ Austrian/ bmi/ LOT/ Swiss/ TAP/ Air Canada	U.S.-Poland (June 16, 2001); U.S.-Portugal (May 30, 2000); U.S.-Switzerland (June 15, 1995); U.S.-Canada (initialled November 2005)
United/ Brussels/ Lufthansa/ Air Canada/ SAS/ Austrian/ bmi/ LOT/ Swiss/ TAP	U.S.-EU (April 30, 2007); U.S.-Canada (March 12, 2007); U.S.-Norway (October 6, 1945); U.S.-Switzerland (July 18, 2008)
United/ ANA	U.S.-Japan (MOU December 11, 2009)
SAS/ Iceland Air	U.S.-Finland (March 24, 1995) U.S.-Denmark, Norway and Sweden (1995)

Annex D. Freedoms of the Air

There are a total of nine "freedoms of the air" which grant traffic rights to airlines. Negotiations between countries will determine which of the freedoms are granted. Below are definitions of each freedom along with an illustration.[51] Some of the freedoms are granted together,, the third and fourth freedoms, while others have been rarely granted (the eighth and ninth freedoms).

The second freedom allows aircraft of one country to land in another country for technical/maintenance purposes. The aircraft is not allowed to pick-up of drop off any passengers

First Freedom

The first freedom refers to one country having the right to fly over another country. The other country must be given notice and approve the flyover.

Second Freedom

The second freedom allows aircraft of one country to land in another country for technical/maintenance purposes. The aircraft is not allowed to pick-up of drop off any passengers.

51 Dempsey, Paul S., "Public International Air Law." Institute and Center for Research in Air & Space Law, McGill University, Montreal, Canada, 2008.

Third Freedom

The third freedom allows a carrier to transit passengers to another country from its base country.

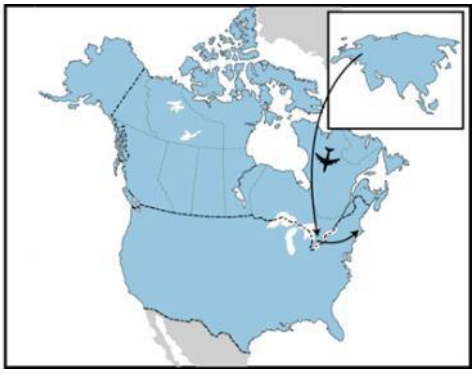
Fourth Freedom

The fourth freedom allows a carrier to transit passengers to its base country from another country.

Fifth Freedom

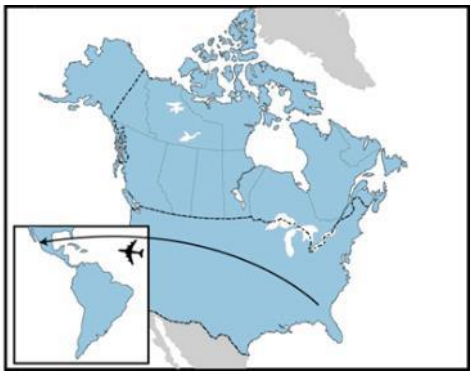
The fifth freedom allows a carrier to transit passengers between two foreign countries if the flight either begins or ends in the carrier's base country.

Sixth Freedom



The sixth freedom allows a carrier to transit passengers between two different countries as long as it does so through its base country.

Seventh Freedom



The seventh freedom gives a carrier the right to transfer passengers between two foreign countries. The carrier does not need to stop in its base country.

Eighth Freedom

The eighth freedom allows a carrier to transit passengers between two points within a foreign country, given that the flight originated in the carrier's base country. This is commonly referred to as consecutive cabotage.

Ninth Freedom

The ninth freedom allows a carrier to transit passengers between two points in a foreign country, without needing to originate or terminate in its base country. This is commonly referred to as pure cabotage.

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