**Code-Sharing and Alliance Illusions**

Six issues, addressed first, briefly.

1: The extent to which alliances and code-sharing have increased/(decreased) capacity of the airline industry overall.

2: The extent to which alliances and code-sharing result in proportionate mutual increases/(decreases) in the volume of flying performed by the metal (aircraft) of each of the participating airlines.

3: The extent to which alliances and code-sharing proportionately benefit the participating airlines.

4: The extent to which alliances and code-sharing proportionately benefit the pilot groups of the participating airlines.

5: The extent to which Joint Venture relationships include code sharing.

6: The industry and its advocates/lobbyists tend to choose specific examples to illustrate statements and opinions (e.g., specific code-sharing partners, routes, markets, etc.); how representative are these of the airline industry generally.

The balance of this white paper more fully addresses and expands on the six issues of interest.

**<u>Issue 1</u>: The extent to which code-sharing has increased/(decreased) capacity of the airline industry overall.**

***Code-sharing is not a primary driver of capacity of the airline industry overall.***

Overall airline industry capacity levels and changes in levels are primarily driven by and vary in response to industry demand – both forecast and actual levels. Industry demand is cyclical, primarily driven by trends in GDP and disposable personal income (DPI), which vary over the duration of a business cycle. The industry sees episodes of capacity expansion, as well as capacity rationalization and retrenchment, at different stages of the business cycle, with or without code-sharing being present or prevalent.

Likewise, international capacity levels are driven by levels and changes in GDP/DPI, as well as by levels and changes in foreign trade and direct foreign investment, and by exogenous factors. Demand directionality (less so, but to some degree roundtrip capacity) varies with changes in foreign exchange rates.

Domestic deregulation and international "Open Skies" accords have been significant drivers of industry overall capacity change and in the type of air services available to consumers. Elimination of controls on market entry, capacity, frequency and pricing led to new carrier startups, expansion by incumbents, episodes of capacity rationalization, and numerous incumbent and new entrant business failures, illustrated by the history of deregulation of the US and EU domestic/internal aviation markets, and between the US and EU.

Other industry overall capacity drivers (which can be secondary, or in case of certain "shocks", co-dominate or surpass as primary) include changes in costs, notably fuel, emergence of low cost new entrants, and the evolutionary efficiency impacts of new aircraft, engine and air traffic control technologies which introduce stepwise, generational reductions in operating costs.

Exogenous factors also influence industry overall capacity, favorably and unfavorably. These include episodic geopolitical, financial system and other events (Dot.com bubble and crash, World Cup/Olympics, regional conflicts, the Asian financial crisis, the 9/11/2001 events, heightened aviation security regime, the global financial crisis), and episodes of heightened passenger concerns over personal safety and security such as SARs/bird flu and Chernobyl/ Fukushima nuclear incidents. Some exogenous factors drive changes in overall industry capacity, others within and to/from a region (energy exploration and development sites). The duration of impact varies from weeks (Olympics, World Cup) to months (9/11, SARS, Fukushima, financial crises) to enduring (post-9/11 security regime impact on short haul travel and industry capacity).

Compared with the above factors, code-sharing in isolation, as a form of selective interlining (interlining having been practice for decades and roughly half of connections having been interline prior to US deregulation), has only a secondary or tertiary effect on levels of capacity.

Further, since code-sharing is generally only one element of a typical comprehensive marketing agreement between two or more airlines, the effect of code-sharing in isolation is difficult to quantify. Other elements accompanying code-sharing typically include frequent flyer program, ground handling and facilities harmonization, airport lounge access, distribution system linkages, corporate contract dealing systems, back-end information technology, and other inducements, initiatives and facilitation programs.

**<u>Issue 2</u>: The extent to which code-sharing results in proportionate mutual increases/(decreases) in the volume of flying performed by the metal (aircraft) of each of the participating airlines.**

***Code-sharing by itself does not drive mutual levels of absolute, percentage or directional change in volume (frequencies, block minutes) and gauge (aircraft type/capacity) of own metal flying by each of the participating marketing or operating carriers. Volume changes and their proportionate impact depend on how carriers implement as well as on competitive response. Mutuality is not assured.***

Whether volume or gauge changes occur at all, or mutually, or proportionally, is a function of code-share agreement structure (unilateral/parallel), the contractual basis on which the carriers agree to code-share, how effectively code-sharing and related functional practices such as revenue management are implemented, and any relevant resource or contractual limitations including, for example, slot limitations, facilities availability, aircraft and crew availability, pilot CBA Scope Clause baselines, limits or ratios binding the participating airlines.

In the case of unilateral operations by one carrier, application of marketing code only by the other carrier, there is no operation by the marketing carrier and thus no change in on-route flying by the marketing carrier. In unilateral operation, the marketing carrier hopes to *synthetically* extend its network reach, and both marketing and operating carrier hope for a shift in share of industry demand to the operating carrier's flights.

Sought-after demand share shift could drive changes in time of day coverage, gauge or frequency changes representing capacity change – or no capacity change at all, if demand share shift is instead harvested via pricing and revenue management actions, resulting in any share shift being accommodated on existing capacity with prior lower average demand being spilled.

In parallel operations, where both carriers operate and apply marketing codes to each other's flights, the carriers hope to *synthetically* shift share of industry demand to their package of code-shared schedules. Share shift could drive changes in time of day coverage, gauge or frequency changes, which may or may not be proportionate – or as above, no capacity change at all, if demand share shift is harvested via pricing and revenue management actions.

Absent regulatory limitations, or permission to coordinate, the resulting change in volume and/or gauge and the resulting proportion of flying from *status quo ante* tends to be influenced

by among other factors, each carrier's ability to leverage comparative advantage, resource availability, and in some cases, cost arbitrage.

Where an alliance, anti-trust immunity and so-called "metal neutrality" are also involved, the partners' ability to coordinate scheduling, inventory/capacity planning, pricing and revenue management may influence mutuality and proportionality.

The concepts of first mover advantage, sustainability of advantage, and tendency to revert to the mean with competitive response (particularly competitive response on behind and beyond origin-destination markets) apply and influence volume changes and proportionality.

For the most part, airlines no longer code-share in isolation; they do so within alliances and JVs, many anti-trust immuned (ATI). The net effect of competition between alliances is increased specialization of individual alliances and their members on service via their alliance partners' hubs, and a reduction or foreclosure in new service to the competing alliance's hub airports.

How airline partnerships affect network development boils down to the question of whether alliances affect any individual airline's incentive to enter with non-stop services. The above noted specialization/foreclosure thesis suggests airlines have less incentive to enter markets involving competing alliances' hubs and further that an airline will be less likely to enter with non-stop service a market it already serves one-stop.

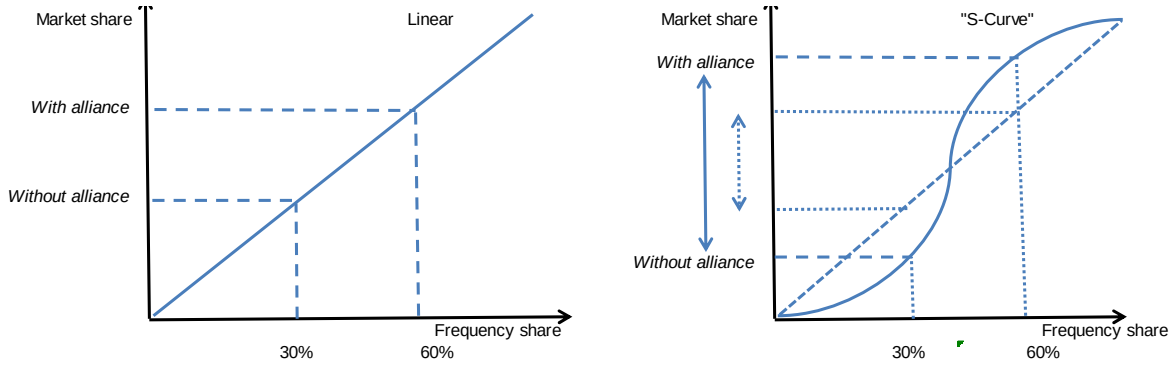
Alliance membership increases the number of such parallel/competing markets, thereby hindering organic "own metal" development of individual alliance members' networks. To the extent an alliance with antitrust immunity involves a higher degree of capacity coordination between individual members, it is more likely to reduce prospects for new entry with nonstop service.

**<u>Issue 3</u>: The extent to which code-sharing proportionately benefits the participating airlines.**

***The proportionality of benefits (however defined; volume , financial) to participating carriers and the sustainability and duration of the benefits depend as noted above on the structure of the code-share agreement, the approach taken by the venture partners to manage the markets, harvest and realize net demand share shift, and on competitive response. Proportionality – to the extent it is achieved – runs with code-sharing implementation, not with the concept per se.***

Sought-after benefits of code-sharing airlines are financial. Traffic composition and revenue are driven by "S-curve" effect on frequency share, changes to distribution system display priority, customer choice and buying behavior, and by revenue management harvesting share shifts in traffic and fare mix. Expense is driven by potential efficiencies associated with accommodating

changes in demand density on “right-sized” equipment, whether due to capacity growth or rationalization.




Market share: *pro rata* (left) compared with observed “S-Curve” effect of frequency/alliance share

How any net benefits attributed to code-sharing are to be distributed among code-share partners is specified in the legal agreements between the parties, which tend to evolve.

**Issue 4:** **The extent to which code-sharing proportionately benefits the pilot groups of the participating airlines.**

As noted, carriers’ code-share objectives are in essence financial. In my experience, code-share agreement language does not comment directly on extra-contractual objectives (such as to how to equitably benefit pilots or other employee groups) or limitations (such as pilot CBA scope clauses).

**Anti-Trust Immuned Alliances and Basis for Sharing**

| Year | Partners | Basis |
|---|---|---|
| 2009 | Air Canada, Lufthansa, United | Revenue |
| 2009 | Delta, Air France, KLM, Alitalia | Profit |
| 2010 | American, British Airways, Iberia | Revenue |
| 2011 | ANA, United | Revenue |
| 2011 | American, JAL | Revenue |
| 2011 | Delta, Virgin Australia | Revenue |
| 2012 | ANA, Lufthansa, Austrian, Swiss | Revenue |
| 2013 | Qantas, Emirates | Revenue |
| 2013 | British Airways, JAL, Finnair | Revenue |
| 2013 | Delta, Virgin Atlantic | Profit |

*Sources: Carrier press releases, Bloomberg, Reuters*

The basis for division of benefits (revenue or profit) between the partners is specified in the relevant agreements and varies from share of operating metrics (seats, available seat miles, block hours) to share of capital employed (aircraft, facilities, slots).

Benefits accrue to the contracting carriers, presumably to shareholders, on a basis specified in the relevant code-sharing/alliance/ joint venture agreements. As the architect of the landmark Northwest/KLM international code-sharing alliance and joint venture noted, ten years later:

> "KLM doesn't care whether it's a blue-tailed aircraft [KLM] or a red-tailed aircraft [Northwest], we share the revenue. But it doesn't matter which side gets the most flights. If you're in labor, of course it does…"
>
> – *Paul Mifsud, "Open Aviation for a Global Industry" (August 2003)*

As Mr. Mifsud noted more than ten years ago, it does matter to labor. Specifically, in my experience, it matters to pilots.

In response to the advent of commuter then domestic mainline then international code-sharing and joint ventures, pilot groups found it necessary to further evolve existing scope language to address code-sharing and alliance and joint venture developments, ensure a production balance and proportionality of benefit, and to deter the potential for labor substitution and arbitrage, through contractual language that binds the employer.

Scope language specifying management-labor agreed code-sharing objectives, purpose, balance of production or other concerns *vis a vis* pilots appears in unrelated but equally legally binding documents such as Collective Bargaining Agreements. Such language typically mandates information sharing for purpose of review and validation, and specifies code-sharing permissibility based on financial triggers or baselines or limitations on metrics such as employment/furlough status, historical or forecast measures of block hours, frequencies, fleet counts, equipment utilization, capacity, or proportionality of same, relative to historical or contractual baselines or limits.

In that respect, the Air Canada/Air Canada Pilots Association CBA (typical of many others) states, in part:

> "Air Canada's corporate policy is to ensure that Code Sharing arrangements are entered into for the purpose of advancing the interest of Air Canada, including Air Canada's Pilots. This policy further confirms any particular flag carrier's intention of ensuring that Code Sharing arrangements, on balance, will benefit Air Canada's Pilots as well as the Air Canada."

As noted, code-share review, measurement and remedies – operational or financial – *vis a vis* pilots are specified outside the code-share agreement. Typically, labor agreements specify remedies for non-compliance that may require the employer to revise its own schedules or capacity offered within a code-share agreement to remain scope-compliant or, where anti-trust

immunity permits coordination of alliance schedules and capacity, require the employer to negotiate a partner's revision of schedules or capacity or, pilots and employer could negotiate a mutually acceptable exception. Because a variety of issues are seemingly always in discussion between the parties, in my experience, exception side letters are a frequent outcome.

U.S. DOT's "metal-neutrality" condition for anti-trust is not a concern to management, in fact they demand it in that it facilitates certain sought-after distribution and operational efficiencies, but it is a concern of pilots in that it de-brands and de-sensitizes distribution channels to the identity of a flight's actual operator, facilitates labor substitution, and thus may upset the "production balance" addressed in an unprecedented six-way Skyteam Air France/KLM/Delta management and respective pilots' agreed, outside of labor contract bargaining.

Achieving a production balance is critical because the metal-neutrality required in a joint venture produces results that do not depend on any one pilot group performing the flying. Without a production balance agreement, flying could be shifted to the lower-cost operation (inclusive of pilot costs and other efficiencies such as aircraft) in order to maximize profits.

the industry rationale conflates pilot benefit (proportional share and volume of flying) with carrier benefit (improved revenue, profit). This is important because it is the latter objective (revenue, profit) on which code-share agreements and joint ventures are typically entered, managed and measured. As with the political-economic version of Voodoo-nomics, a "trickle-down effect" benefiting pilots, generally, is by no means assured.

It is exactly the potential for such oversight – potential, inadvertent or otherwise – that has caused pilot CBAs negotiated since the mid-1990s to call for scope compliance information sharing and validation – in the words of the late President Ronald Reagan, "trust, but verify".

The continuing presence of controlling scope language with remedies suggests a continuing need. Frequent disputes and the not-infrequent awards of significant financial damages suggest carriers continue to push the envelope.

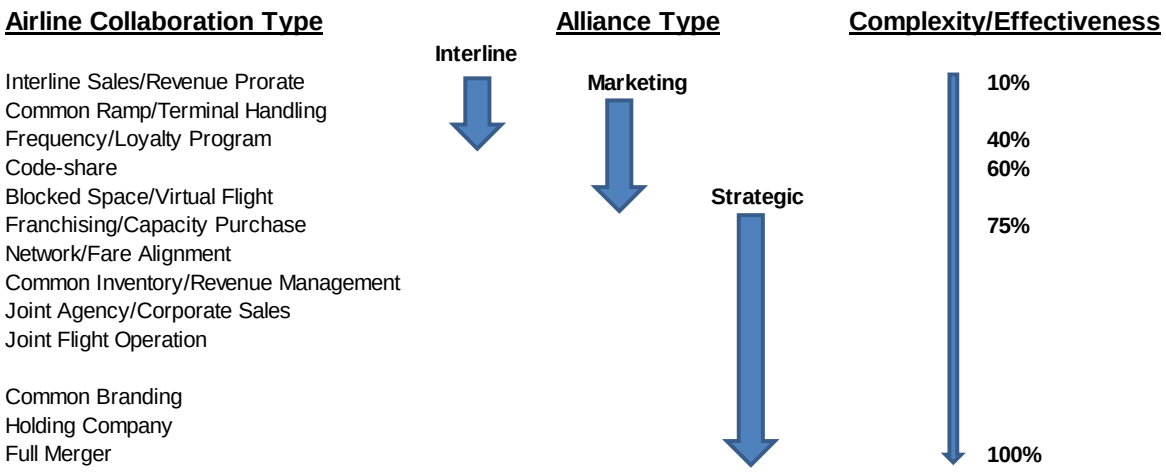
Because "trickle-down" benefits of code-sharing have been elusive, proportionality of benefits and the potential for labor substitution have been "hot button" issues in every pilot contract negotiation and ongoing review of scope clause compliance that I am aware of and have been involved with since 1996.

**Issue 5: The extent to which Joint Venture relationships include code sharing.**

***As code share relationships and alliances have developed, carrier partnerships have naturally evolved into deeper joint venture relationships, typically enabled by antitrust immunity, resulting in stronger revenue sharing concepts.***

Joint Venture relationships take numerous forms, but they tend to be extensions of less complicated forms of cooperation including code-sharing agreements and operations, and an attempt to achieve a greater extent of the full spectrum of synergies judged to be possible in presently impermissible cross-border merger transactions.

Code-sharing provides perhaps 60% of the full economic potential achievable through outright merger, with the balance only achievable through increasingly complex types of collaboration, some of which require anti-trust immunity to pursue, others of which may only be retained and achieved at present only via multi-national holding company structure like Air France/KLM.




*Source: RWM estimates; review of literature*

Since the 1992 approval of US-Netherlands "open skies" and the Northwest-KLM code-share and anti-trust immuned joint venture that became the template for relaxation of regulatory restrictions and airline cooperation, it has been increasingly difficult to isolate code-sharing from other joint venture-driven effects, nor does any joint venture not include code-sharing.

Code-sharing partnerships exist within each of three global alliances and both Atlantic and Pacific antitrust immuned joint ventures.

**Issue 6:** **Where the industry and its lobbyists have chosen specific examples to illustrate via statements and opinions (e.g., specific code-sharing partners, routes, markets, etc.), the extent to which those examples are representative of the airline industry generally.**

***In general, code-sharing advocates and the industry rationale rely on illustrations, examples and data that do not reflect the full spectrum or depth of debate, pro and con, on the benefits of, and industry rationale for, code-sharing.***

Other airline industry examples and other relevant datasets could be chosen that objectively illustrate that drivers other than code-sharing have been far more determinative of, have produced, and will in the future continue to produce greater impact on industry capacity levels.

The industry rationale chooses examples and cites results of a by now very dated analytical model (Gellman Research Associates' 1994 report "A Study of International Airline Code Sharing" written for US DOT Office of Aviation and International Economics using first quarter 1994 data) that overstate the effects of code-sharing by failing to note the far more determinative effects of, for example, econometric drivers and exogenous variables such as supply cost shocks and geopolitical and financial system events.

The GRA report specifically expresses caveats on a number of modeling parameters and limitations that for all practical purposes should eliminate it from serious consideration twenty years later, in 2014. Although the code-share/alliance benefit thesis is based in part on the assertion that code-sharing expands capacity:

> "***The [1994 GRA] model attempts to explain only the market share*** of a given alternative as a function of various attributes of that alternative; ***it cannot explain changes in overall size of a market due to code sharing***…" [emphasis added, here and following]
>
> "***Limitations: The model developed for the study assumes a fixed market size…***; ***it assumes no increase in the overall size of market from service quality improvements associated with code sharing***. ***In addition, the model does not measure any response by carriers competing with the code-sharing alliances***. In combination, ***we would expect these two factors to result in a larger market and a lesser impact on market share than that observed***."

In an industry where competitive response is inevitable and the industry has coalesced around three global alliances, any model must consider competitive response:

> "In addition, ***the model does not capture any responses by the airlines competing with the code-sharing alliance. These would tend to reduce the observed market-share impacts.***"

GRA's "industry" code-share quantification model environment is vintage 1993/1994 and limited to a small "most developed" sample; Northwest/KLM began code-sharing in 1991, the US-Netherlands reached an open-skies agreement in 1992, and anti-trust immunity was granted to Northwest and KLM in 1993; British and USAir had just begun codesharing in 1993:

> "Because the ***BA/USAir and Northwest/KLM code-sharing arrangements are the most developed of the existing major agreements***, a sample was drawn from a list of DOT-approved code-sharing markets ***which would most likely be dominated*** by one of these two carrier combinations. (Note: ***it was not practical to include all code-sharing markets*** because much effort was involved in constructing the choice sets available in each market from the OAG data.)"

Even though up to two-thirds of traffic onboard a typical transatlantic flight is composed of demand aggregated from small markets, connecting from and to points behind and beyond the hubs or gateways, GRA acknowledged its model was not suited to evaluation of such markets:

> ***"The type of model developed for the study also was not appropriate to measure code-sharing impacts in the many small markets which are from a point behind a U.S. gateway to a point behind a foreign gateway."***

In summary, there has been significant change in industry and competition structure over the past twenty years, which calls into question research and academic work (carrier-compensated or performed at the request of a regulator) based on data from the early 1990s.

As noted, airlines now no longer code-share in isolation; they do so within alliances, alliances compete with ATI, and subsets of alliances compete in ATI'd JVs. The net effect of competition between alliances is specialization of individual alliances and their members on service via their alliance partners' hubs, and a reduction or foreclosure in new service to the competing alliance's hub airports.

A network airline industry that has coalesced along the lines of three global alliances Alliance membership increases the number of such parallel/competing markets, thereby hindering organic "own metal" development of individual alliance members' networks. To the extent an alliance with antitrust immunity involves a higher degree of capacity coordination between individual members, it is more likely to reduce prospects for new entry with nonstop service.

The industry's talking points overstate the impact of code-sharing <u>in isolation</u> and focus primarily on how code-sharing drives benefits <u>to the participating carrier</u>, as previously noted, conflating it with benefit to pilots (and consumers).

Additionally, some comparisons use comparables whose industry context differs in important ways from individual carriers. One such compares a Canadian flag carrier's ratio of code-share to online capacity to that of US carriers, a comparison that appears to include US major network carriers' more extensive use of domestic regional capacity purchase contract operations, which at times have represented more than 50% of their US domestic departures. Canadian and US

airline markets differ markedly in size, number of competitors, and in degree of fragmentation on domestic, transborder and other international markets, which understandably drive business model-oriented differences as well as different code-share to online ratios.

Some market illustrations are based on nuances understandable to an industry analyst (in the context provided), but are potentially confusing to the layman.

For example, it is no surprise that code-sharing carriers, by artificially moving up the frequency share "S-Curve", achieve greater than *pro rata* traffic shares, fare mixes and revenue shares hub-to-hub and home-country to home-country via *virtual* or *synthetic* – not organic, "own metal" – network expansion.

The industry rationale admits as much when it states:

> *"The largest driver of benefits from code sharing comes from expansion of both carriers "online" network. Code sharing allow both carriers to offer interline flight connection options under a both airline codes – effectively creating new travel options for customers,* ***without the addition of flights by either partner***" [underlining added].

The industry and its lobbyists' use of "online" (in quotes) clearly refers to synthetic, non-organic network expansion.

Typical choice of a 1999-2012 time frame starting point and comparison basis avoids mention of the effects of numerous exogenous factors which pre-date 1999. These include rapid economic growth, trade pacts, deregulation of markets. Each and all of these landmark developments had significant influence on capacity, changes in the competitive landscape and growth in air service, before large-scale code-sharing, alliances and ATI'd JVs took hold. In this sense, there is no objective control case isolating code-sharing- specific benefits and such a comparison fails to acknowledge a decade of fundamental organic growth.

The period 1991-2001 was a decade in which markets grew, but concentration (as measured by the sum of the top 3 carriers' market shares) did not rise significantly, while the number of significant (supra 2% share) competitors declined modestly due to market forces.

By contrast, the next decade 2002-2012 saw mergers and the Atlantic market coalesce around three global alliance-led ATI'd JVs, such that over the period 1991-2012, the Atlantic changed from a fragmented market plied by 26 independent carriers to a "cartel" of three ATI'd JVs.

The trigger events in the development path were the Air France/KLM multi-national holding company/merger and alliance with Delta/Northwest, followed by the Lufthansa-led alliance with United, and the long-delayed British Airways alliance with American.

A list of US DOT approved immunized alliances as of 12/16/2013 is shown below. US Airways, which merged into American Airlines Group, exited the Star Alliance effective 3/30/2014 and joined oneworld alliance on 3/31/2014. US Airways was subsequently added to the immunized AA/US/BA/IB/FY/RJ alliance, and to the Joint Business Arrangement between AA/US/ BA/IB/FY.

## AIRLINE ALLIANCES OPERATING WITH ANTITRUST IMMUNITY

A compendium of antitrust immunity cases administered by the Secretary of Transportation pursuant to 49 U.S.C. §§ 41308-41309.

*Last updated: 12/16/13*

### ACTIVE IMMUNIZED ALLIANCES

| SkyTeam | Star Alliance | Oneworld | Other |
|---|---|---|---|
| Delta/ Air France-KLM/ Alitalia/ Czech/ Korean<br><br>Delta/ Virgin Atlantic*/ Air France-KLM/ Alitalia<br><br>* Not a member of SkyTeam | United/ Air Canada/ Brussels/ Lufthansa/ Swiss/ Austrian/ SAS/ LOT/ TAP<br><br>United/ Air New Zealand<br><br>United/ Asiana<br><br>United/ All Nippon Airways<br><br>United/ COPA | American/ Lan Airlines/ Lan Peru**<br><br>American/ British Airways/ Iberia/ Finnair/ Royal Jordanian<br><br>American/ Japan Air Lines<br><br>** Affiliate of LAN but not a member of oneworld | SAS/ Icelandair<br><br>Delta/ Virgin Australia |

With the Atlantic now largely consolidated around Star/Skyteam/oneworld alliances and ATI'd JVs, the late 2010 Japan-US "open skies" agreement and the development of ANA/United and JAL/American metal-neutral ATI'd JVs, with significant free trade discussion ongoing in the Asia-Pacific Economic Conference region, formerly independent Pacific carriers are likely to coalesce around the same three global alliances. If past is prologue, it would be hard to argue otherwise, although the pace of change will be dictated by the Chinese relaxing entry to their markets.

The circa 1994 GRA report did not contemplate, nor does the industry rationale state what portion of market share shift attributed wholly to the existence of code-sharing was driven or enhanced by alliances and ATI'd JVs, alternatively such research cannot suggest what benefits any particular flag carrier could have achieved purely via interlining or by affiliation with a different alliance, noting that not all alliances demand exclusivity and prohibit codesharing with carriers outside the alliance.

This is especially relevant in light of one particular flag carrier's comparatively dominant market position as Canada's only significant scheduled flag carrier. Research and conclusions based on the historic fragmentation of the US and EU markets and the 1994 vintage, US carrier based GRA model the industry rationale cites may not be entirely relevant.

To summarize, both the GRA model and the Report attribute significant incremental benefits from initial application of code-shares to pre-existing online and interline connections, but do not indicate the benefits' durability or sustainability when competing carriers and alliances "manufacture" (i.e. publish and promote) identical "virtual connections" within and across their own synthetic code-share, alliance and ATI'd JV networks. Nor do GRA or The industry and its lobbyists consider the competitive foreclosure effects of three ATI'd JVs.

## COMMENTS ON THE INDUSTRY RATIONALE

This White Paper began by addressing the six issues posed above, commenting on the industry rationale at a high level. The balance of the paper does so in greater detail, illustrating with examples and data.

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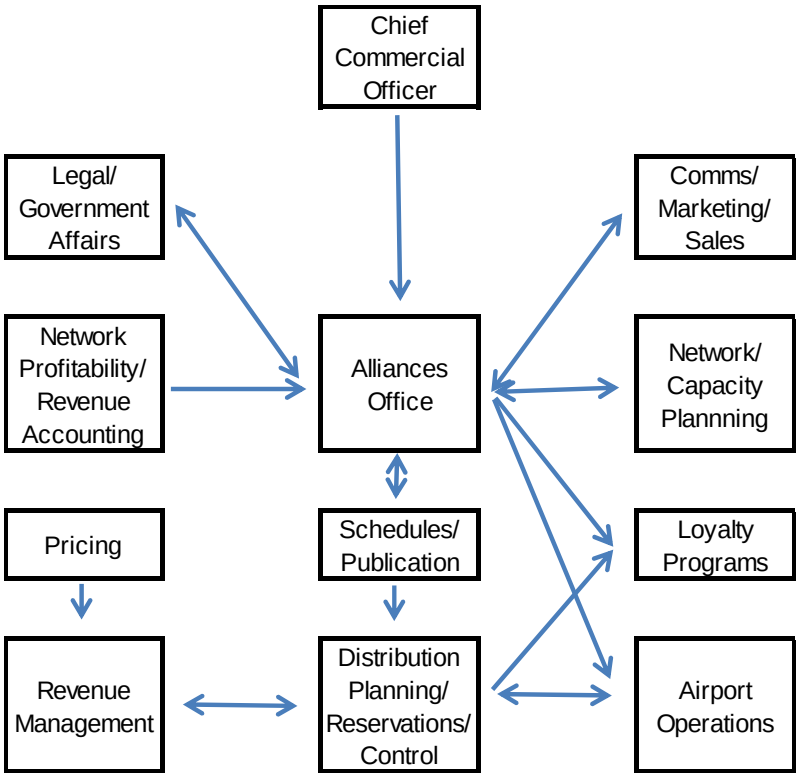
### Code-sharing Has Evolved Into More Complex and Collaborative Alliances and Joint Ventures

Code-sharing and what have evolved as more complex forms of cooperation and collaboration offer carriers the ability to synthetically leverage the distribution system, influence customer choice, and harvest resulting financial gains, in the case of unilateral code-sharing representing incremental returns on essentially no capital investment. Code-sharing creates:

- Opportunities to create and leverage "virtual" or synthetic network presence
- Opportunities to create synthetically induced shifts in customer buying behavior
- Opportunities to harvest consumer surplus via pricing and revenue management

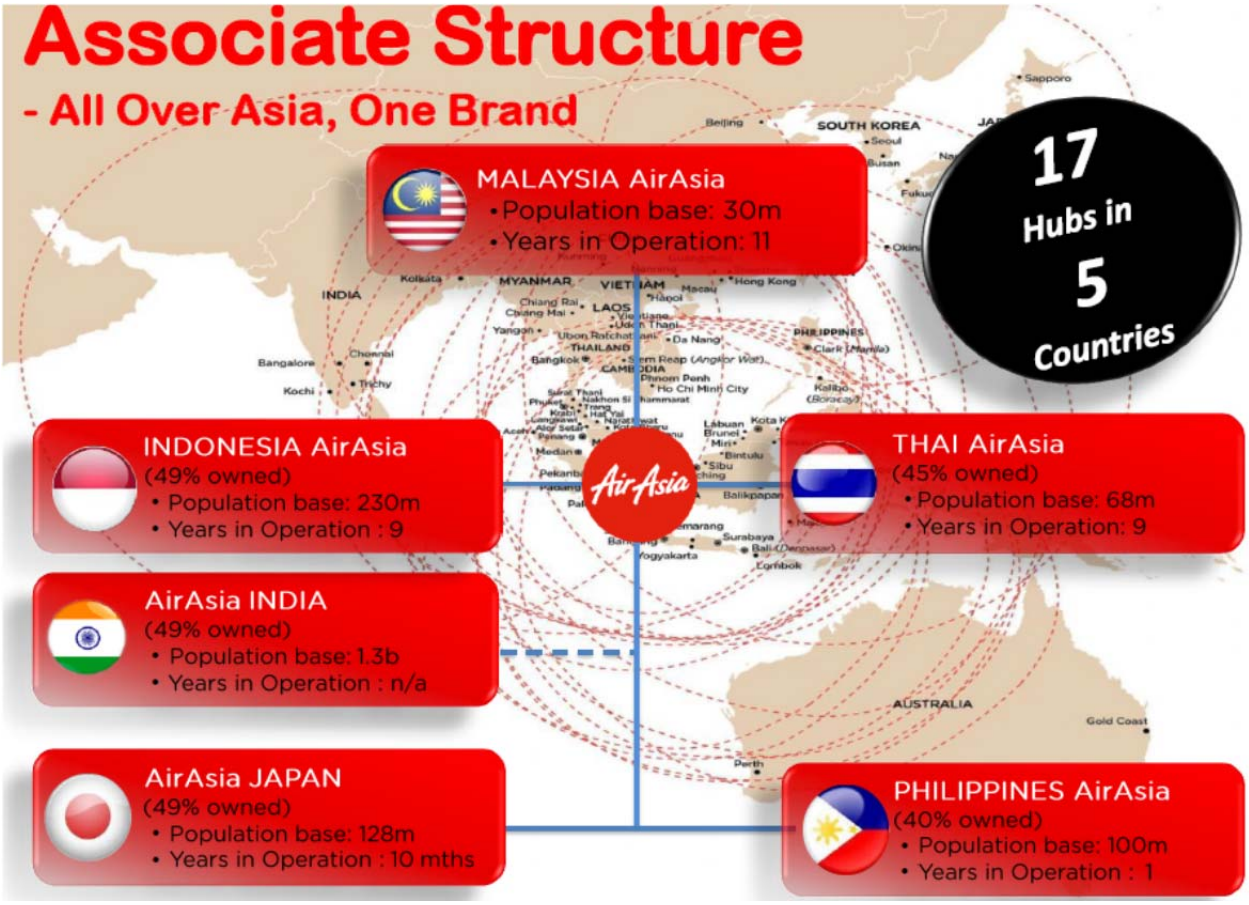
Code-share partnerships offer the potential to expand an airline's network reach, even on end-to-end routes it does not serve ("virtual service"), without commensurate capital investment. To achieve full potential requires a Commercial Plan, cross-organizational support (Alliance as well as functional management), adds overhead, and the results must be measured and form part of the airline's Financial Plan.




Alliance and joint venture agreements allow airlines to collaborate in various activities to rationalize costs such as by sharing sales offices, ground handling personnel, check-in, lounge and boarding staff, while synthetically expanding global reach and market penetration. When granted as part of an alliance or joint venture application pursuant to airline request, anti-trust immunity permits airlines to coordinate capacity and pricing.

**Code-sharing, Alliances and JV Concepts Have Evolved Structurally and Geographically**

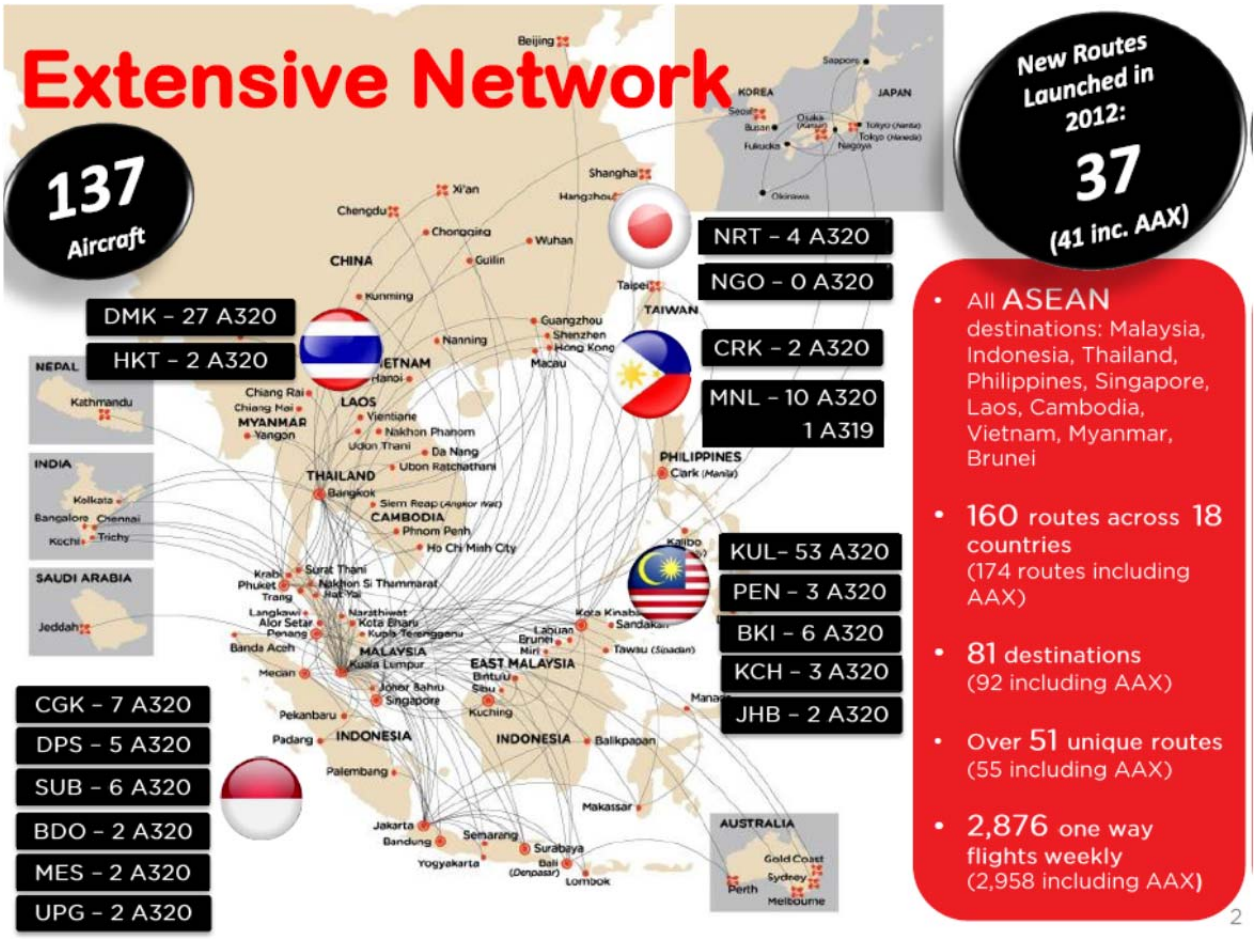
The scope and scale of airline code-sharing based alliances and joint ventures have increased since the first was formed between Northwest and KLM, and the concept has expanded globally, from the legacy network carriers into emerging market low cost carriers, as illustrated by the multi-national ambitions of AirAsia and its separately certificated but commonly branded associate structure, intent on setting up operations in eight nations.




*Source: AirAsia investor presentation (2013)*

AirAsia's present development stage organization incorporates an eight-nation/flag structure:

- AirAsia, AirAsia X (Kuala Lumpur) – operating, operating
- AirAsia Zest, Philippines AirAsia (Manila, Clark) – operating, operating
- Indonesia AirAsia, Indonesia AirAsia X (Jakarta, Denpasar) – operating, startup
- Thai AirAsia, Thai AirAsia X (Bangkok) – operating, startup
- AirAsia Japan (Narita) - restarting
- AirAsia India (Chennai) - startup
- AirAsia Korea (Incheon) - startup
- Vietjet AirAsia, Vina AirAsia (Hanoi) – development stage




*Source: AirAsia investor presentation (2013)*

**Code-sharing and Alliance Membership Evolves with Industry Structure**

Illustrating that there are tensions even within alliances, and even as they seek and participate in code-sharing and more collaborative forms of alliances, carrier management tends to have its eyes wide open to the possibility that the partner's interests or alliance participation may change, and with it the balance of benefits.

If marketing programs are like dating, joint ventures are more like marriage. Marriage is by intent permanent, and by design complicated to unwind, yet divorce still happens frequently.

Things change, and former airline CEO, current airline board member Rigas Doganis' prophetic 2005 statement of airline managements' evolving intent is equally applicable today:

> "While rarely stated publicly when airline alliances are formed, there can be little doubt that airline executives see alliances, especially when they involve code-sharing and capacity rationalization, as a way of reducing or limiting competition."
>
> *– Rigas Doganis, "The Airline Business in the 21st Century" (2005)*

Recently, US Airways and TAM have left the Star alliance to join oneworld. British Airways, a oneworld alliance founder, had earlier comprehensive marketing agreement and code-sharing dalliances with United (1986-1992) and US Air (1993-1997), in which British at one time held the maximum amount of US Air's regulatory capital permitted under US law.

**Code-sharing As A Synthetic Influence Has Only A Secondary or Tertiary Impact on Capacity**

Code-sharing is not a primary driver of capacity of the airline industry overall. Industry capacity is cyclical and responsive to forecast and actual demand, which is driven primarily by trends in econometric and trade variables, by changes in (chiefly relaxation of) air transport regulation (domestic and international) and business models, and by exogenous factors and events.

Individual code-sharing efforts seek to drive participants' market share above "fair share" at the expense of non-participants, but do not expand overall industry capacity. The long-term effects of code-sharing on any individual carrier's capacity change as competitors respond, and as consolidation and as anti-trust immuned joint ventures develop to cause the industry to coalesce along three existing global alliance lines, with the potential for a fourth Gulf-based carrier and perhaps an Ultra/Low Cost Carrier alliance.

Airlines are a network industry in which the geometrically increasing potential associated with network expansion is widely understood. "Organic" "own-metal" network expansion requires capital and creates additional capacity and operational risk. Airlines developed code-sharing as means by which to expand network scope and influence consumer buying behavior indirectly and synthetically, thus mitigating the need to risk proportional increases in capital or capacity, while still seeking network benefits.

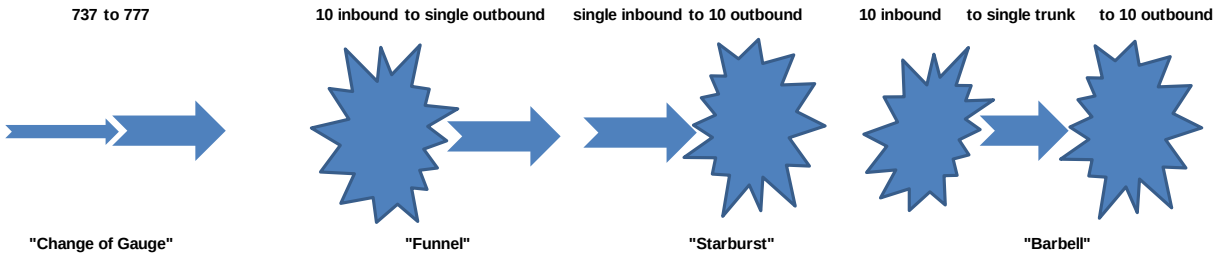
Code-sharing is a synthetic alternative means by which to enhance the apparent scope and scale of "organic" (i.e. real, own metal) networks by placing one or more additional "marketing airline" designator codes (e.g. for any particular flag carrier, "YY*") on the schedules of flights actually operated by partner carriers, with the expectation to favorably influence buying behavior.

In that sense, code-sharing is similar to historical means by which carriers manipulated display of online schedules. Airlines filed schedules using flight numbering concepts designed around distribution system display preference parameters and to leverage known booking and buying

behaviors. Among the techniques were synthetic or virtual flight numbering concepts such as "change of gauge", "funnel", "starburst" and "barbell" topographies.[1]/

These synthetic flight numbering techniques were rendered irrelevant by the early 1990s due to changes to distribution system display regulations, observed reduction in booking share-shift effectiveness, introduction of new technology aircraft/engine combinations capable of economic service in prior "virtual service" markets, changes in legacy airline networks, and by introduction of a new synthetic flight listing technique -- code-sharing and multiple flight listings ("display crowding" or "screen padding").

**Examples of flight numbering concepts designed to influence distribution and buying behavior**
**Same flight number(s) carried through from origin to destination**




Code-sharing airlines hoped to achieve the booking share shift and financial returns of a larger and more encompassing "synthetic" network and to earn incremental contributions on what is effectively zero incremental capital, those 'divide by zero' mathematics driving a strong ROIC.

Overall industry capacity change was also driven by deregulation, which caused airline business models and networks to evolve new organizational forms and strategies, including hub-and-spoke networks, and to evolve from multilateral interlining to selective interlining, code-sharing, cooperative marketing agreements, alliances, joint ventures, and mergers.

Cooperative marketing agreements—alliances and code-sharing—have been a dominant theme of international aviation since the 1990s decade, about which an accumulated body of academic and economic work began to be published in the late 1990s into the early 2000s. Other cooperative practices, such as blocked space, wet leasing, franchising, joint service and pooling, are often combined with code-sharing.

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[1]/ These synthetic or virtual "flights" were all in fact single or double connection services, but would appear in the distribution system as a single flight number, as "single plane", "through" or "direct" service, display in higher/better screen position, and were thus expected to yield improved bookings and shift market share. Virtual flight numbering declined with changes in distribution system regulation, and as networks changed with introduction of new technology aircraft that permitted nonstop service on long-thin markets over-flying traditional gateways.

The US GAO noted in a 2004 response to US Congressional requesters that permission to code-share, as an element of relaxing international aviation regulation, had resulted in US and EU carriers ***appearing*** to 'expand the number of markets that received ***"on-line"*** service between the US and EU' yet '***without having to increase the number of routes [flown] using [their] own aircraft***'. (emphasis added)

> 'Open Skies agreements greatly changed how US and EU airlines provide international service. The change centers on the alliances that various US and EU airlines have formed with each other. Operating in an alliance allows an airline to greatly expand its service network, without having to increase the number of routes it flies using its own aircraft. In the simplest case, an international code-sharing alliance links the route network of one airline with the route network of another, forming an end-to-end alliance with little overlap. In this way, alliances have allowed airlines to expand the number of markets that received "on-line" service between the US and EU.'
>
> *– GAO-04-835 (2004)*

Taken together, a comprehensive marketing program that includes code-sharing is designed to portray and promote a "seamless" meshing of the airlines' programs, services and schedules, and in the process, influence customer choice and buying behavior in order to achieve revenue and in some cases expense synergies -- but falling short of what is possible in an actual merger or acquisition transaction, structures that remain elusive due to foreign ownership restrictions.

The overall goal of code-sharing and comprehensive marketing programs is essentially bottom line financial. Capacity growth *per se* is not an objective, but could be a derived response to sought-after demand shifts, or demand shifts could be harvested by revenue management in the form of enhanced traffic/fare mix.

There can be a first-mover advantage to initiating code-sharing and comprehensive marketing programs. However, when competing carriers and ultimately the majority of the industry on a route or in a region such as the North Atlantic responds – teams up to form their own comprehensive marketing agreements – passenger choices and resulting capacity requirements tend to revert to *ex ante* norms on a "zero sum" basis. This is especially so when considering shares of the two-thirds of passengers on international connecting journeys from/to markets behind/beyond the hubs or gateways (and thus, two-thirds of planned capacity requirements) where multiple, competing code-share network routings are available.

The industry's and its academician/lobbyists' conclusion that code-share is a significant capacity driver is counter-factual to the status quo ante, in part due to its focus on periods after 1999, international markets having grown substantially in the 1980s and 1990s, prior to widespread adoption of code-sharing, fundamentally on economic growth and expansion of foreign trade.

Similarly, the industry rationale cannot explain moribund performance in the US-Japan market, where current capacity is below 2005 levels, despite the introduction by ANA/United and JAL/American of code-sharing and joint ventures in late 2010 and the opening of Haneda Airport to international service.

**Specialization and Foreclosure Resulting From Code-sharing Raise Competition Issues**

More than 85% of transatlantic capacity is now covered by antitrust immuned joint ventures operated within the three global alliances – Star, Skyteam and oneworld. Anti-trust immuned alliance coverage by Star and oneworld alliance carriers is expanding on transpacific routings where "open skies" prevail. Latin American routes are likely next to be affected, and a fourth Gulf carrier alliance may emerge.

Code-sharing raises competition issues in two ways – as an apparent enhancement of competition through the appearance of additional or better virtual service, and as an actual reduction of competition via market concentration produced by cooperation or coordination. Like its effects on capacity, the long-term effects of code-sharing on competition remain unclear.

There is a spirited debate on the competition topic, advocates citing economic analysis of 1990s data, some of which was authored by academics compensated by code-sharing, alliance and joint venture applicants, with more circumspect opinion authored by independent airline economists and some outspoken airline executives.

The academics cite each other's early 1990s research, while the circumspect group cites developments and data from the industry merger, consolidation, alliance and anti-trust immuned joint venture phase, in the late 2000s decade through the present.

The concept of specialization/foreclosure suggests airlines have less incentive to add capacity by entering markets involving competing alliances' hubs, and further that an airline will be less likely to enter with non-stop service a market it already serves one-stop.

**Code-Sharing Benefits to Pilots And Production Balance Among Firms Are Not Assured**

The proportionality of benefits (however defined; volume, financial) to participating carriers and the sustainability and duration of the benefits depend as noted above on the structure of the code-share agreement, the approach taken by the venture partners to manage the markets, harvest and realize net demand share shift, and on competitive response. Proportionality runs with code-sharing implementation, not with the code-sharing concept *per se*.

During 1996 through 2003, Allied Pilots Association, its Scope Committee and its General Counsel, retained my consulting services as airline industry analyst and advisor, in which role I advised APA on scope issues in negotiations and in quarterly meetings with the Company. Quarterly scope meetings reviewed commuter/regional and international code-sharing operations and plans, while at other times I reviewed the public and *in camera* filings with US DOT by American Airlines and British Airways and their applications in 1996, 1998 and 2001 for code-sharing, comprehensive marketing agreement and anti-trust immune alliances. My reviews of the series of AA/BA proposals were conducted under DOT Rule 39, solely for review by signatories to a non-disclosure agreement and by Counsel.

Without violating any of my continuing confidentiality obligations, elements of the AA/BA code-sharing, comprehensive marketing agreement and joint business arrangement proposals as then proposed violated APA's then current contracts in a number of important respects, the effect of which would have had American drawing down AA flying in then-profitable UK markets and placing its AA* code on BA operated routes. Areas of concern identified to AA pilots included potential violations of the following then-current contractual provisions:

> "In negotiating codesharing agreements with Foreign Carriers, the Company shall attempt to maximize opportunities to use its own aircraft and personnel."
>
> "The Association and the Company agree that the Company shall continue to seek international route authority and pursue all opportunities for deploying its aircraft assets on international routes."
>
> "The Company shall not, without the Association's consent, place or maintain its code on any international route or frequency operated by a Foreign Carrier, on which the Company could earn a return on invested capital at least equal to WACC."

Scope language such as the above APA-AA Collective Bargaining Agreement examples specifies code-sharing objectives, purpose, balance of production or other concerns *vis a vis* pilots, and appear in unrelated but equally legally binding documents such as other Collective Agreements.

Similar to the APA agreement, remedies for non-compliance may require a participating flag carrier to revise its own schedules or capacity offered within a code-share agreement to remain compliant or, where anti-trust immunity permits coordination of alliance schedules and capacity, require a participating flag carrier to negotiate a partner's revision of schedules or capacity or, alternatively, the participating carrier and its pilots could negotiate a mutually acceptable exception side letter of agreement.

US carriers' and many other pilot contracts contain scope clauses with information sharing provisions designed to measure and ensure proportionate benefits to pilots of code-share participants, among other factors, and did so by various methods, driving disputes and remedies on many occasions in my experience going back to the mid-1990s.

Such a case occurred in 1998 when American was noticed to have fallen out of compliance with transborder terms of its pilot scope clause via an excessive application of AA* code on Canadian Airlines transborder flying while reducing AA transborder flying, resulting in American being required to remove its AA* code from CP's transborder flying.

Other similar scope "busts" driving significant financial remedies occurred in 2001 when American Eagle was noticed to have operated regional flying in excess of what was permitted by APA's scope clause, and in 2005 when Chautauqua Airlines placed on its certificate 70-seat aircraft operated for another carrier, in violation of APA's scope clause which limited to 50-seats any aircraft operated by a commuter carrier with which AA code-shared.

Delta pilots have perhaps the most comprehensive current agreement on proportionality. Associated with the 2009 joint venture agreement reached among Delta Air Lines, Air France, and KLM, the airlines' CEOs met with their pilot union leader counterparts in June 2010 to sign a six-way joint venture protocol agreement. The leaders committed to mutual consensus development and information sharing – importantly, this extra-contractual agreement was reached voluntarily, *outside of bargaining*.

In January 2013, pilots at Delta, Air France, KLM and Alitalia met and agreed in respect of the carriers' transatlantic joint venture, ensuring cooperation and a mutual commitment to maintaining a fair share of flying for each group. The agreement provides for mutual assistance, information exchange, and achieving "production balances" that ensure a fair share of the flying for each of the pilot groups.

DOT's "metal-neutrality" condition for anti-trust is not a concern to management, in fact they demand it in that it facilitates certain sought-after distribution and operational efficiencies, but it is a concern of pilots in that it debrands and desensitizes distribution channels to the identity of a flight's actual operator, facilitates labor substitution, and thus may upset the "production balance" addressed in the six-way Skyteam Air France/KLM/Delta management and respective pilots' agreement.

Achieving a production balance was critical because the metal-neutrality required in a joint venture produces results that do not depend on any one pilot group performing the flying. Without a production balance agreement, flying could be shifted to the lower-cost operation (inclusive of pilot costs) in order to maximize profits. Accordingly, Delta's recent contract specifies that if Delta operates within a joint venture, it must operate at least the share of joint venture block hours flown proportional to the share of revenue Delta derives from the arrangement.

**Carrier Benefit Does Not Equate To Pilot Benefit**

The industry rationale conflates pilot benefit (proportional share and volume of flying) with carrier benefit (improved revenue, profit). This is important because it is the latter objective (revenue, profit) on which code-share agreements and joint ventures are typically entered, managed and measured. A "trickle-down" effect benefiting one particular flag carrier's pilots (or pilots generally, or across the alliance, fairly) is by no means assured.

It is exactly the potential for such oversight – potential, inadvertent or otherwise – that has caused pilot CBAs negotiated since the mid-1990s to call for information sharing and to call out a basis for measurement of pilot benefits quantified in relevant metrics such as proportional shares of and floors on block hours, frequencies and available capacity operated in code-share and joint venture markets. The continuing presence of controlling scope language with remedies suggests a continuing need. Frequent disputes and the not-infrequent awards of financial damages suggest carriers continue to push the envelope.

Proportionality of benefits and the potential for labor substitution have been "hot button" issues in every pilot contract negotiation and ongoing review of scope clause compliance that I have been involved with since 1996.

In recent post-merger contract amalgamation, United's pilots achieved stronger international scope protections via a geographical limit that restricts international code-share flying from United's hubs to only the hubs of the foreign partner or an airport in a country that contains one of their hubs. United pilots preserved a "foreign air carrier flight differential" feature in the previous Continental contract. That differential is determined by comparing a company's average number of scheduled flights per day operating on an international route to the average number of scheduled flights per day operated on the same international route by the foreign code-share partner, using a rolling 12-month look-back period to account for seasonality. The company may not place its designator code on any foreign airline flight on a shared international route that would exceed the differential number of flights by more than two.

Additional protection is provided by a 90% floor on scheduled block hours between the US and countries covered by a joint venture, compared with a 12 month look-back period prior to entering the JV. The floor may only be adjusted downward if other US carriers in the market also shrink their block hours, and then only by 50 percent of the percentage of competitors' decrease in scheduled block hours in the market. The contract ensures that United operates flying within the joint venture markets at least proportional to revenue from a revenue-sharing agreement.

In 2010, United announced and began to market, then in August 2012, "United" terminated a wet-lease and code-shared flight Washington-to-Madrid on which Aer Lingus operated its own aircraft crewed by 16 Aer Lingus pilots and 61 US-based third-party contract cabin crew under a Joint Venture agreement. No United aircraft, pilots or cabin crew and no Aer Lingus cabin crew were involved in the controversial United marketed/Irish operated JV to a third country, Spain.

United's current contract prohibits any similar arrangement by the above noted requirement that United operate the share of block hour flying with its own aircraft proportional to the share of revenue it receives from any joint venture. In addition, United cannot create a new foreign airline entity over which the company has control, which eliminates the threat of labor substitution to a foreign subsidiary. Similarly intended language in the Delta PWA requires any foreign-hire pilots to be covered by the Delta PWA under identical terms.

Both Delta and United contracts further include language stating that their companies will oppose foreign cabotage and, in the event that US law were to change, prohibit use of their respective codes on flights operated by foreign carriers that engage in permitted cabotage.

Unlike Japan, where United and American are involved with Japanese partner carriers ANA and JAL in anti-trust immuned Joint Ventures including code-sharing (despite which, capacity remains below 2005 levels), the US does not have an Open Skies agreement with China, so anti-trust immunized joint ventures in Chinese markets are not now possible under DOT rules. Delta has code-share agreements with China Airlines, Vietnam Airlines, China Southern Airlines, and China Eastern Airlines, while United has a code-share agreement with Air China, and American has a code-share agreement with Hainan Airlines. Joint ventures involving foreign carriers whose pilots (even their crew-leased, contract ex-patriot US citizen ATPs) and other employees earn significantly less than their US counterparts are a concern to developed market labor due to the potential for labor arbitrage. (And not only in Asia; consider the Norwegian Air International imbroglio).

American's recent transitional contract with its pilots parallels in many respects the Delta and United contracts, particularly, hub-to-hub restrictions within code-sharing agreements and proportionality restrictions on code-sharing between American and partner hubs.

As previously noted, proportionality of benefits and the potential for labor substitution have been "hot button" issues in every pilot contract negotiation and ongoing review of scope clause compliance that I have been involved with since 1996.

Proportionality may be looked at not only through the lens of historical information sharing, but on a forward-looking basis as well, with an eye to identifying and minimizing the potential for future "busts". Airline schedules and code-shares are routinely published a year in advance.

Under International Air Transportation Association auspices, hundreds of airlines and airport facilitators and coordinators meet semi-annually to allocate arrival and departure slot times and coordinate international schedules at 60 key slot-controlled and schedules-facilitated airports worldwide, for the following year's Winter and Summer schedule periods.

| Winter 2014/15 SC/134 Abu Dhabi | ACTIVITY | Summer 2015 SC/135 Bangkok |
|---|---|---|
| 14 Apr 2014 | SHL Deadline | 15 September 2014 |
| 1 May 2014 | Agreed Historics Deadline | 2 October 2014 |
| 08 May 2014 | Initial Submission Deadline | 09 October 2014 |
| 27 May 2014 | AppCal opened to Coordinators | 28 October 2014 |
| 29 May 2014 | SAL Deadline | 30 October 2014 |
| 03 June 2014 | AppCal opened to Airlines | 04 November 2014 |
| 10 – 12 Jun 2014 | IATA Slot Conference | 11 – 14 November 2014 |
| 15 Aug 2014 | Slot Return Deadline | 15 January 2015 |
| 31 Aug 2014 | Historics Baseline Date | 31 January 2015 |

Fort Worth - November 2013

*Source: IATA*

The 12-month forward trend in contractual compliance on metrics such as capacity, frequency and block minutes may be reviewed at any time. Divergent trends may also be observed, for example, a rise in gauge (average seating capacity) of planned international flying, where capacity (ASMs) rises while flying (block minutes) declines.

Despite information by which to monitor forward compliance trends being available and known to planners who routinely monitor own/partner/competitor schedules and capacity levels (though likely unaware of Collective Agreement limits or triggers), there is no indication of it being used to identify cases of or remediate potential future non-compliance.

**Airlines Once Objected To Code-sharing, Now Insist on Anti-Trust Immunity**

With industry "capacity discipline", consolidation and anti-trust immuned joint ventures having spread from transatlantic to transpacific markets, concerns are being raised by some industry analysts and regulators, as well as consumer groups, over the potential for permitted collusive coordination of scheduling, capacity, pricing and revenue management to drive up load factors, rationalize capacity and destroy demand, especially in point-to-point and hub-gateway markets. The capacity foreclosure thesis looks increasingly real on the Atlantic.

US DOT has made "open skies" and "metal neutrality" conditions precedent for approval of anti-trust immuned joint ventures – all of which incorporate code-sharing.

> "***Metal neutral" joint ventures are structured so that partners in the venture are indifferent as to which one operates the 'metal' (aircraft) when they jointly market services***. Metal neutrality can be achieved through cost-, revenue- and/or comprehensive benefit-sharing arrangements." - *US DOT, Final Order, Joint Application of the Star Alliance, July 10, 2009*
>
> "***By pooling resources*** to improve the overall service offering, and by sharing financial gains and losses, we find that ***the partners are able to*** harmonize the global network and ***become indifferent as to which of them collects the revenue or operates the aircraft over a given itinerary***. They are thus able to focus their efforts on gaining the customer's business by providing the best available fare, schedule, and routing between two cities." - *ibid*
>
> "Airline alliances create substantial opportunities for generating economic benefits, many of which are dependent at least in part on the closer integration achievable only with antitrust immunity. ***These benefits can be viewed as*** demand-side – relating to the creation of new or improved services through expanded networks or seamless service, or ***supply-side – essentially the ability to produce the same services at lower cost taking advantage of traffic densities, improved utilization of capacity and lower transaction costs.*** Potential demand-side benefits include the elimination of double marginalization, expansion of route networks, expansion of flight frequency, and improved 'online' service options. ***Supply-side efficiencies include cost reductions through economies of traffic density, cost reductions through coordination of second-degree competition parameters (sharing of facilities), and cost reductions through coordination of first degree competition parameters (pricing and yield management, capacity)***" - ibid

The airline industry's top managers were not always so favorably inclined toward code-sharing. In 1984, American, United and twelve independent non- code-sharing commuter airlines sued the US regulator to stop Allegheny Airlines from displaying its "AL" code on the schedules of independent commuter carriers based on the view that it was a deceptive practice that should be suppressed from travel agency distribution system displays.

In 1993, American's then-CEO Robert Crandall was quoted as having termed code-sharing "little more than legalized consumer fraud", while in 1994 he was quoted as saying "We think code-sharing is truly deceptive." A decade later in 2003, speaking at the Competitive Enterprise Institute, Crandall, by then retired, stated "US carriers as a group would have far more robust international networks today if code-sharing alliances had never been blessed by the DOT" suggesting that in his view, US carriers' international network growth, even during the profitable late 1990s era, had been suppressed by code-sharing alliances, at the cost of US carrier share of network growth and flying lost to foreign carriers.

Crandall's conclusion in 2003 – even as his former airline employer continued to seek code-sharing arrangements with British Airways for "me, too" competitive reasons – differed from conclusions in GRA's 1994 report, and with the industry's lobbyists'/advocates' conclusions on benefits to consumers and any particular flag carrier.

While anti-trust immuned joint ventures subject to open skies and metal-neutrality are now universally sought-after by management (even American's), the indifference as to means of production, the potential for labor substitution, and manner in which supply-side efficiencies are achieved are of concern to pilot interests, specifically, proportional opportunity and growth in flying on each participant flag carrier's metal. Indeed this is an issue of concern to all pilots, as evidenced by the attention paid to the issue in bargaining, in ratified agreements, and in voluntary agreements made outside of bargaining, as noted above.

Code-sharing carriers exploit each other's native comparative advantage with respect to distribution systems and market presence/dominance, for the benefit of revenue on the routes involved. Code-sharing carriers assemble traffic from points behind and beyond destination airports/countries, examples being code-sharing Star alliance carriers and their "Atlantic ++" (A++) joint venture and behind-North America-Germany-beyond strategy. Delta/Air France/KLM do similarly on the behind-Americas-France/Netherlands-beyond, while American/US Airways/British/Iberia/Finnair do similarly on the behind-Americas-UK/Spain/Finland-beyond markets.

While it was not the case before all three alliances operated anti-trust immuned joint ventures on the Atlantic, all three alliances now compete on a metal-neutral basis for essentially the

same behind and beyond market traffic and revenue that makes up as much as two-thirds of a typical intercontinental flight load.

Air Canada had since circa 2005 promoted its ability to pull traffic from US and Latin American markets across Toronto (and to a lesser extent Vancouver) to international destinations beyond – originally controlled on Air Canada metal. Now, it is less so able to control routings on a metal-neutral basis within A++. The success of such a strategy as Air Canada's, relying as it does on online traffic and distribution control, may erode, going forward, under a "metal neutral" requirement and in light of what are now three competing metal-neutral ventures on the Atlantic and two (plus Delta and its code-share and marketing partners) on the Pacific. In addition, the capacity foreclosure thesis suggests that own-metal expansion is suppressed within the alliance, outside of hub-to-hub and gateway-to-gateway service.

**Development And Consolidation Phases In International Markets**

Development phases in the Atlantic markets were neatly summarized by airline economist Hubert Horan in his circa 2008-2010 comments to US DOT on the applications of Delta, United and American for anti-trust immunity for their respective joint ventures. He continues to make similar presentations around the industry, including to the European Aviation Club and Northwestern University Kellogg School of Business.

Horan has a lengthy airline planning career, including work on the Northwest/KLM and Swissair/Delta and Swissair/American code-share alliances, and is now an unaffiliated independent airline industry analyst who expresses significant concerns about the objectivity when originally written and the relevancy of much of the body of academic and consultant work cited by DOT in earlier grants of anti-trust immunity.

Horan expresses that there is a debate on the objectivity of some of the body of literature and academic writings on the benefits of code-sharing and alliances. He cites analytical structures and data samples as no longer reflecting the current industry environment. He also cites as potentially problematic cases in which airlines compensate advocates and consultants to produce research on matters that later become the subject of regulatory applications, then refer to the compensated work in their applications as a settled body of independent research.

Horan also questions the usefulness, independence, validity and current relevance of the same paid advocate/consultant/authors continuing to cite their own prior research using early 1990s data and early 2000s analysis, especially when regulators consider basing their decisions on such literature more than a decade later, when the industry structure is significantly different.

In that sense, the industry rationale relies on code-sharing benefits benchmarks expressed in the 1994 GRA model and report, which is of highly questionable relevance in an industry competitive environment which has moved against a number of the model's then-stated caveats and limitations.

**Phases of Development and Consolidation in Atlantic and Pacific Markets**

| **Market Force-Driven: Atlantic** | **1991** | **1993** | **1995** | **1997** | **1999** | **2001** |
|---|---|---|---|---|---|---|
| Top 3 US-EU Carrier Share | 35% | 42% | 42% | 45% | 47% | 47% |
| Number of >2% US-EU Competitors | 15 | 15 | 13 | 13 | 11 | 11 |

| **Merger into Alliance Cartel: Atlantic** | **1991** | **1993** | **2001** | **2012** |
|---|---|---|---|---|
| Top 3 US-EU Carrier Share | 35% | 42% | 47% | 97% |
| Number of >2% US-EU Competitors | 15 | 15 | 11 | 3 |

| **Development of North Atlantic Cartel** | **1991** | **2012** |
|---|---|---|
| | 26 Independent Competitors | 3 Collusive Alliances: Star - Skyteam - oneworld |

| **Atlantic Consolidates Along Alliance Lines** | **2002 - 4 Competitive Alliances** | | | **2005 - Risk of EU Duopoly** | | | **2012 - Permanent Alliance-aligned Cartel** | | |
|---|---|---|---|---|---|---|---|---|---|
| Trigger Event: Air France/KLM Merger | DL/ATL | 20% | AF/CDG | DL/NW | 29% | AF/KL/AZ | DL/NW | 31% | AF/KL/AZ |
| Result: Global Alliance-aligned Consolidation | UA/IAD | 21% | LH/FRA | UA/US | 27% | LH/SR | UA/US/CO | 42% | LH/SR |
| | -- | 14% | BA/LHR | -- | 11% | BA/LHR | AA/ORD | 24% | BA/LHR |
| | AA/ORD | 14% | SR/ZRH | AA/ORD | 11% | | | | |
| | NW/DTW | 9% | KL/AMS | | | | | | |
| | CO/EWR | 7% | -- | CO/EWR | 10% | | | | |
| | US/PHL | 5% | -- | | | | | | |
| | -- | 3% | VS/LHR | -- | 4% | VS/LHR | -- | 4% | VS/LHR |

**Pacific Markets Following Atlantic Lead**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Trigger Event: US-Japan "Open Skies" | Northwest | Air France | | | | | Delta | Singapore |
| Result: Global Alliance-aligned Consolidation | Delta | KLM | | | | | Northwest | Thai |
| | United | Lufthansa | | | | | United | Malaysian |
| | Continental | British Airways | | | | | Continental | JAL |
| | US Airways | Iberia | | **26** | | **26** | American | ANA |
| | American | Brussels | | **Independent** | **Star** | **Independent** | Hawaiian | Horean |
| | TWA | Air Canada | | **Trans-Atlantic** | **Skyteam** | **Trans-Pacific** | Cathay Pacif | Asiana |
| | Finnair | Aer Lingus | | **Carrier** | **oneworld** | **Carrier** | Air China | China Air |
| | Austrian | Virgin | | **Competitors** | | **Competitors** | China Easter | EVA |
| | SAS | TAP | | | | | China South | Qantas |
| | Alitalia | CSA | | | | | Hainan | Air NZ |
| | Swiss | Turkish | | | | | Air Canada | V Austrlia |
| | LOT | BMI | | | | | Phillipines | Air Pacific |

*Source: Hubert Horan; comments in US DOJ/DOT Dockets in re: applications by UA et al and AA et al for ATI, presentation to Northwestern University Kellogg School of Management*

While the intercontinental sector of the airline industry grew across the 1990s decade, international network growth was far less dynamic than domestic network growth, as Crandall noted as far back as 2003, with a legacy of regulatory-constrained structural impediments and limited/restricted market entry remaining in many parts of the world.

While aviation competition is perceived as dynamic, this has been far more so, mostly in fact, the case with narrowbody/domestic/internal markets than widebody/intercontinental markets. In the aggregate, the vast majority of growth in the number of carriers and the amount of flying and capacity growth has been in short and medium haul domestic/regional operations, where

there is a far greater level of demand. Code-sharing has not overcome the fundamentally lower levels of demand and comparatively lethargic capacity growth in intercontinental markets.

Large scale new entry in the intercontinental markets has been rare (Gulf and Asian carriers, primarily) despite rapid growth in trade and emerging markets/economies, and new entry has been largely offset by legacy carrier consolidation and failures in comparatively mature economies/markets (North America and European flag carriers).

Air traffic and terminal facilities congestion effects and delays manifest in many large mature markets (e.g. New York, London, Frankfurt), resulting in the need to introduce airport coordination or regulatory "slot controls" which effectively limit entry and scheduling flexibility at economically viable departure and arrival times, all of which protects incumbents.

Further, alliance members have demonstrated they will reallocate slots held by one carrier to higher and better use by other alliance partners to maximize overall code-share, alliance and JV network benefits. Such moves, while optimal for the network, may reduce flying opportunities for an individual carrier's pilots.

A Review of Data Questions Industry's Advocates' Central Claims About Code-sharing

A review of econometric, market and available carrier data suggests that the international industry and markets have not performed as suggested in the industry's code-share rationale.

Further, a review of an individual flag carrier's long-haul, "blue water" intercontinental activity levels compared to Star alliance and Industry in the European and Asian markets shows that particular flag carrier's capacity and its pilots' flying have not necessarily benefited as the industry rationale would suggest from the code-sharing inherent to its alliances in both geographic entities or the Atlantic++ JV.

I am not aware of publicly accessible Transport Canada or Statistics Canada airline traffic or fare data comparable to US DOT data for US and reporting foreign carriers. That said, US carriers operate within the same three global alliance structure that Canadian flag carriers participate in and compete with, and observations the actual performance of US international markets and data can be helpful. With the previously mentioned caveats on US industry's greater fragmentation, US carrier data can be used to illustrate limitations in industry lobbyists'/advocates' report conclusions, while overlaying exogenous events illustrates the significantly greater impact of factors other than code-sharing.

Global alliance ATI and JV milestones are summarized below.

**Milestones in Airline Code-shares, Mergers and Anti-trust Immuned Global Alliances**

**SkyTeam**

***1993*** ***Northwest and KLM obtain antitrust immunity ("ATI") for their code-share alliance***
2000 Aeromexico, Air France, Delta and Korean Air form SkyTeam
***2002*** ***Air France, Delta, Korean, Alitalia, Czech obtain common ATI within SkyTeam***
2004 Air France and KLM merge. Continental, Northwest and KLM become full members
***2008*** ***Air France/KLM, Delta, Northwest, AlItalia, Czech obtain common ATI immunity***
***Air France/KLM, Delta, Northwest approved/form an immunized 3-way JV in SkyTeam***
Delta and Northwest merge
2009 Continental, sole trans-Atlantic, non-immunized SkyTeam member, exits SkyTeam

**Star**

1997 Air Canada, Lufthansa, SAS, Thai and United launch Star
***United and Lufthansa obtain antitrust immunity within Star***
2009 ***Continental joins Star, obtains ATI, joins 9 existing commonly ATI'd Star members***
***Air Canada, Continental, Lufthansa, United form separate ATI'd 4-way JV within Star***
2010 Continental and United merge

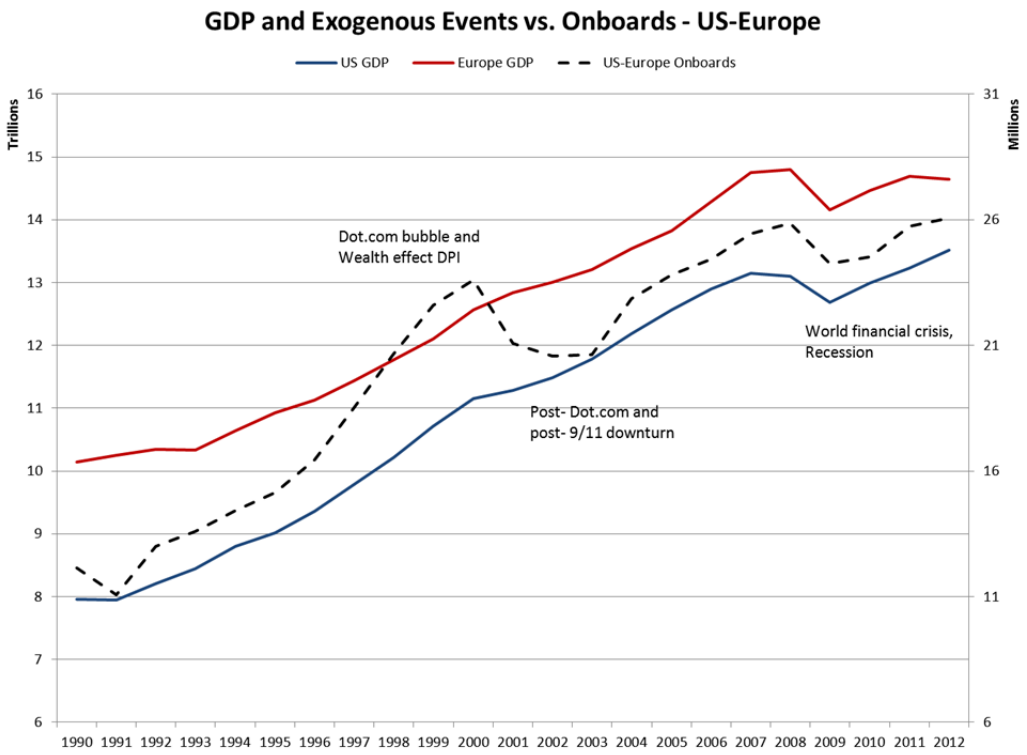
**oneworld**

1999 American, British, Cathay, Canadian and Qantas launch oneworld
***2002*** ***American and Finnair obtain ATI within oneworld***
***2010*** ***American, British, Finnair, Iberia and Royal Jordanian obtain ATI within oneworld***
***American, British and Iberia form a separate ATI'd 3-way JV within oneworld***
***2013*** ***Finnair joins America, British, Iberia in separate 4-way ATI'd JV within oneworld***
***2014*** ***US Airways (merged with American) joins oneworld and a 5-way ATI'd JV within oneworld***

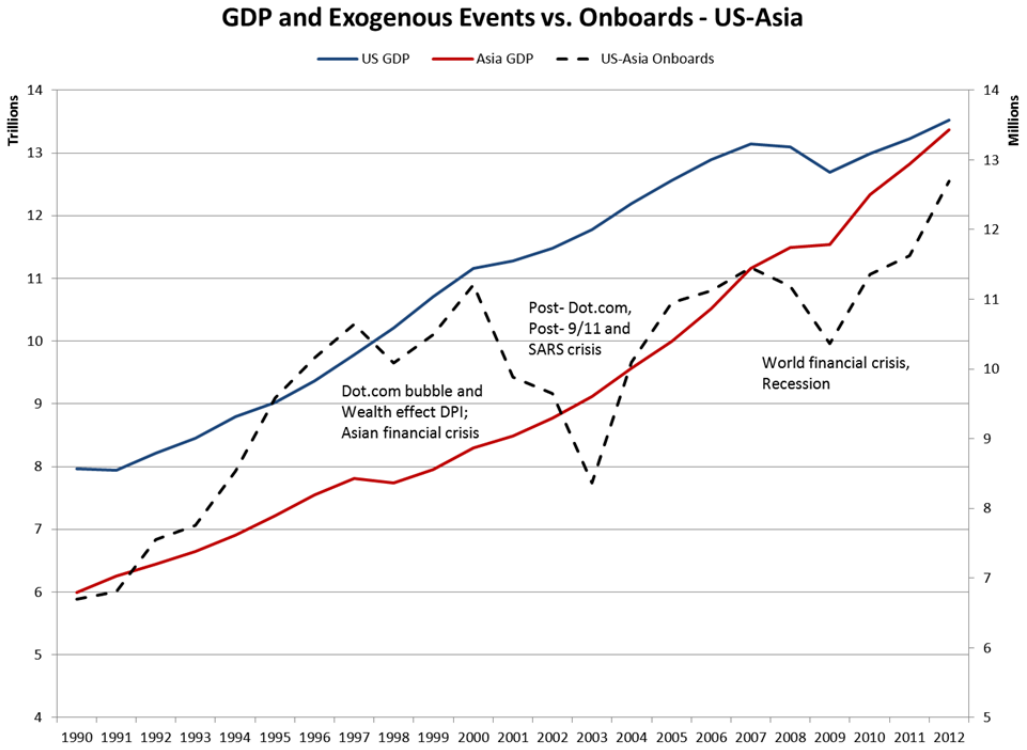
Industry capacity tends to be set at levels designed to match and respond to forecast and actual industry demand, which is forecast at a high degree of accuracy by carrier econometric models.

Using onboard passengers over the period 1990-2012 as proxy for industry demand, reported onboard passengers on US-Europe have a 95.2% correlation with GDP alone, while US-Asia passengers have an 81.8% correlation. Asian-originating passenger volumes are understood to be more influenced by personal security concerns and certain key markets were subject to unique impacts (localized Asian financial crisis, Japanese "lost decade", SARS, Fukushima).

External factors affecting both econometric and industry onboard performance are noted on the following two illustrations of US, European and Asian GDP and US onboard passenger volumes to Europe and Asia over the period 1990-2012.




*Source: International Monetary Fund, DOT T100 filings by the carriers via diio/Seabury*

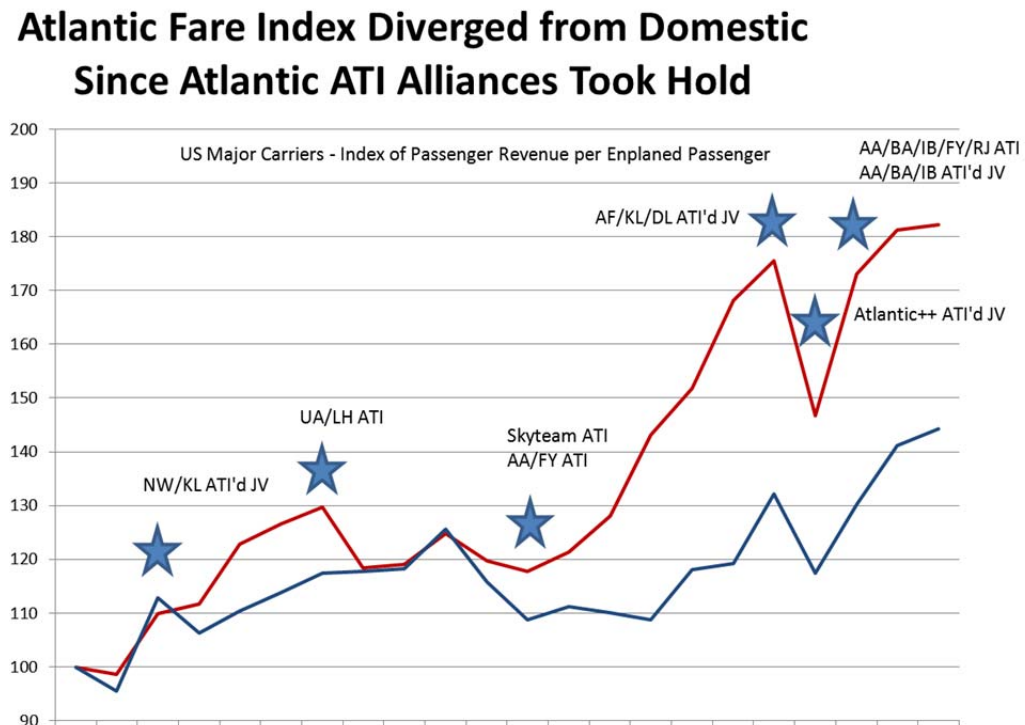



*Source: International Monetary Fund, DOT T100 filings by the carriers via diio/Seabury*

Similarly, I am not aware of a publicly available source of Canadian carrier fare data, however, noting that US carriers participate in the same industry code-share, alliance and JV structures as any particular flag carrier, I have utilized data on US carrier passenger revenue per enplaned passenger to illustrate the trend in fare increases on the Atlantic over the years 1991-2012 (the last full year of such data reported).

Similar to the above GDP/Onboard charts, I have overlaid the timing of major merger, global alliance ATI and JV milestones on the trend in per passenger fare growth.

As the comparison also illustrates, US carrier average per enplaned passenger fares on the heavily consolidated Atlantic rose much faster than the more fragmented US domestic market trend, where fares were also disciplined by low cost carriers.




| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATLANTIC Index to 1991 | 100 | 99 | 110 | 112 | 123 | 127 | 130 | 118 | 119 | 125 | 120 | 118 | 121 | 128 | 143 | 152 | 168 | 175 | 147 | 173 | 181 | 182 |
| DOMESTIC Index to 1991 | 100 | 96 | 113 | 106 | 110 | 114 | 117 | 118 | 118 | 126 | 116 | 109 | 111 | 110 | 109 | 118 | 119 | 132 | 117 | 130 | 141 | 144 |

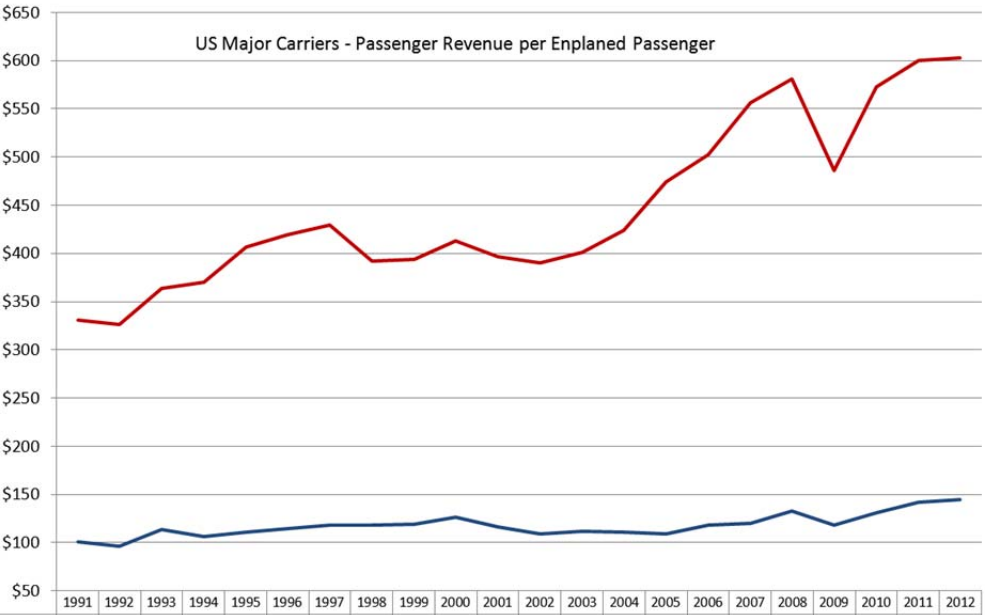
*Source: industry DOT P1, T1 as filed by the carriers via diio/Seabury*

Given the sequence and timing of milestones in mergers, ATI awards and spread of ATI'd JVs over the period, this suggests that industry consolidation on the Atlantic created an opportunity to harvest Atlantic consumer surplus for the benefit of producers – unlike fragmented domestic markets.

The share of industry capacity on the Atlantic operated under ATI'd JVs increased with 1993, 1997, 2002, 2008 and 2009 milestones, to the point that by 2010/2011, all three alliance-aligned ATI'd JVs were in place and the vast majority of industry capacity on the Atlantic was highly consolidated and under coordinated capacity and pricing control.

By contrast, the opportunity to harvest more modest consumer surpluses due to US Domestic mergers and associated capacity discipline did not manifest until 2010, and even still was limited by low fare carrier pricing discipline.

**Atlantic Fares Rose More Rapidly than Domestic Since Atlantic ATI Alliances Took Hold**




| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATLANTIC Average Fare | $331 | $326 | $364 | $370 | $407 | $419 | $429 | $392 | $394 | $413 | $396 | $390 | $402 | $424 | $474 | $502 | $556 | $581 | $486 | $573 | $600 | $603 |
| DOMESTIC Average Fare | $100 | $96 | $113 | $107 | $111 | $114 | $118 | $118 | $119 | $126 | $116 | $109 | $112 | $111 | $109 | $119 | $120 | $133 | $118 | $131 | $142 | $145 |

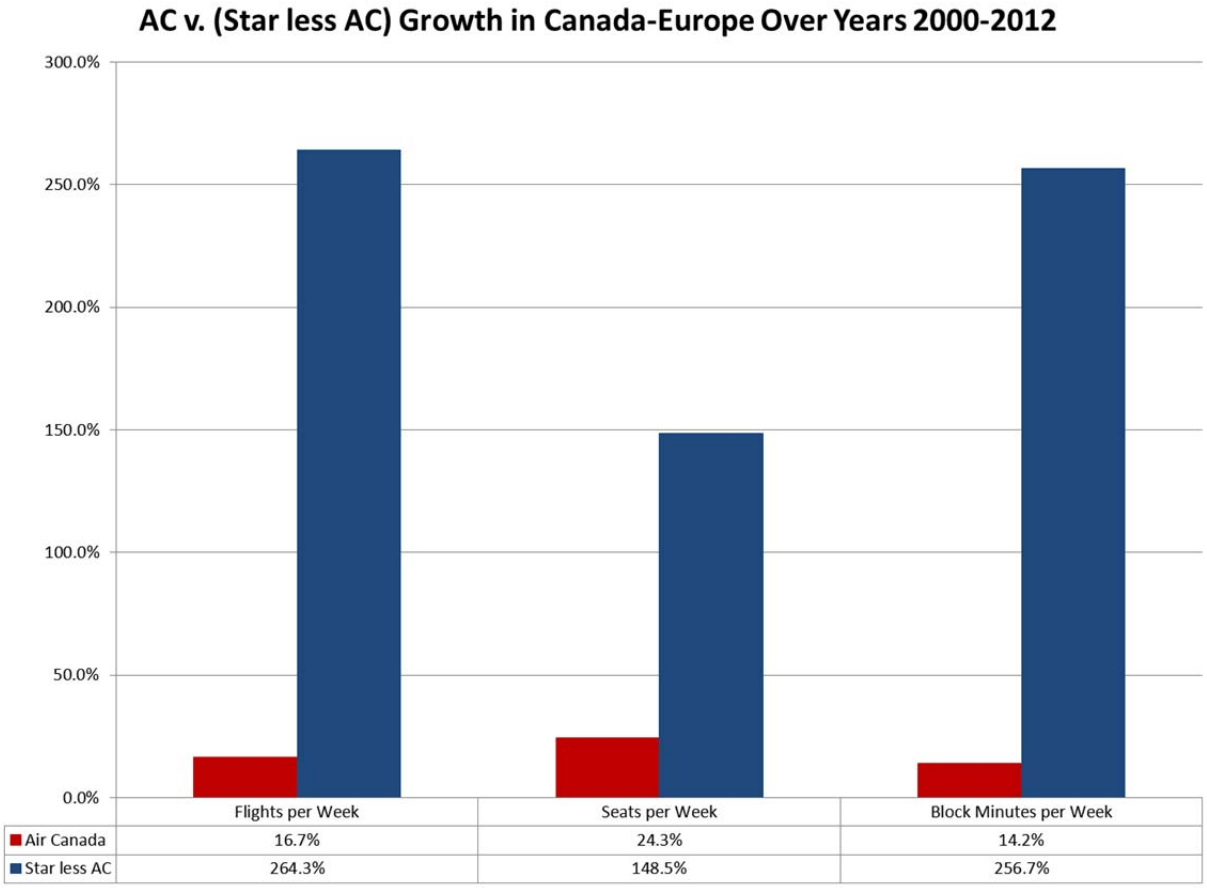
*Source: industry DOT P1, T1 as filed by the carriers via diio/Seabury*

Looking at the Canadian market, if one were to believe code-share advocates, Air Canada's participation in code-sharing created the opportunity for greater organic capacity growth.

Whatever magnitude of opportunity code-sharing created, over the period July 2000-July 2012, in the Canada-Europe markets where Air Canada was part of an alliance and an ATI'd JV, Air Canada flying and Air Canada pilots have not benefited commensurately or proportionately.

Including Canadian Airlines (CP carrier code) in the July 2000 base (Air Canada assumed control of Canadian in January 2000), Air Canada (AC plus CP) block minutes flying (the closest proxy for pilot resource requirement) and flights grew at less than one-tenth the growth rate of Star Alliance less Air Canada, while Star Alliance rate of seat growth was more than six times that of Air Canada.

Air Canada's growing average gauge of flying to Europe is illustrated by the divergence between a 16.7% flight growth and a 24.3% seat growth.

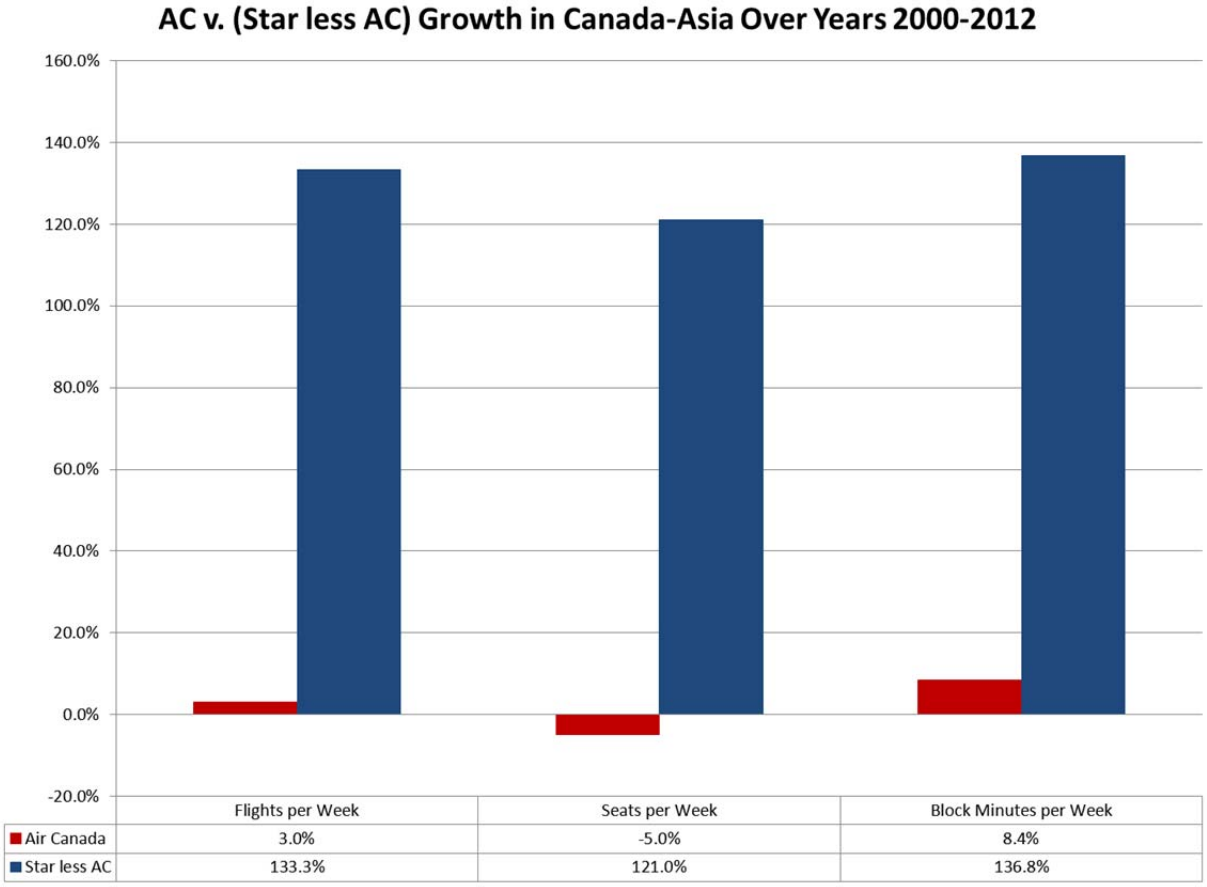



*Source: industry schedule data as filed by the carriers via diio/Seabury*

In Canada-Asia markets, code-sharing, alliances and JVs were less encompassing (in both duration and geographic market extent).

Once again including Canadian Airlines (CP carrier code) in the July 2000 base, over the period July 2000-July 2012, Air Canada (AC plus CP) seats declined by (5.0)%, compared with 121.0% growth by Star Alliance carriers less Air Canada.

Air Canada's growth in flights and block minutes were less than one-tenth of Star Alliance carriers (less AC) growth rates -- 3.0% and 8.4% respectively, while Star less AC grew by 133.3% and 136.8% respectively.

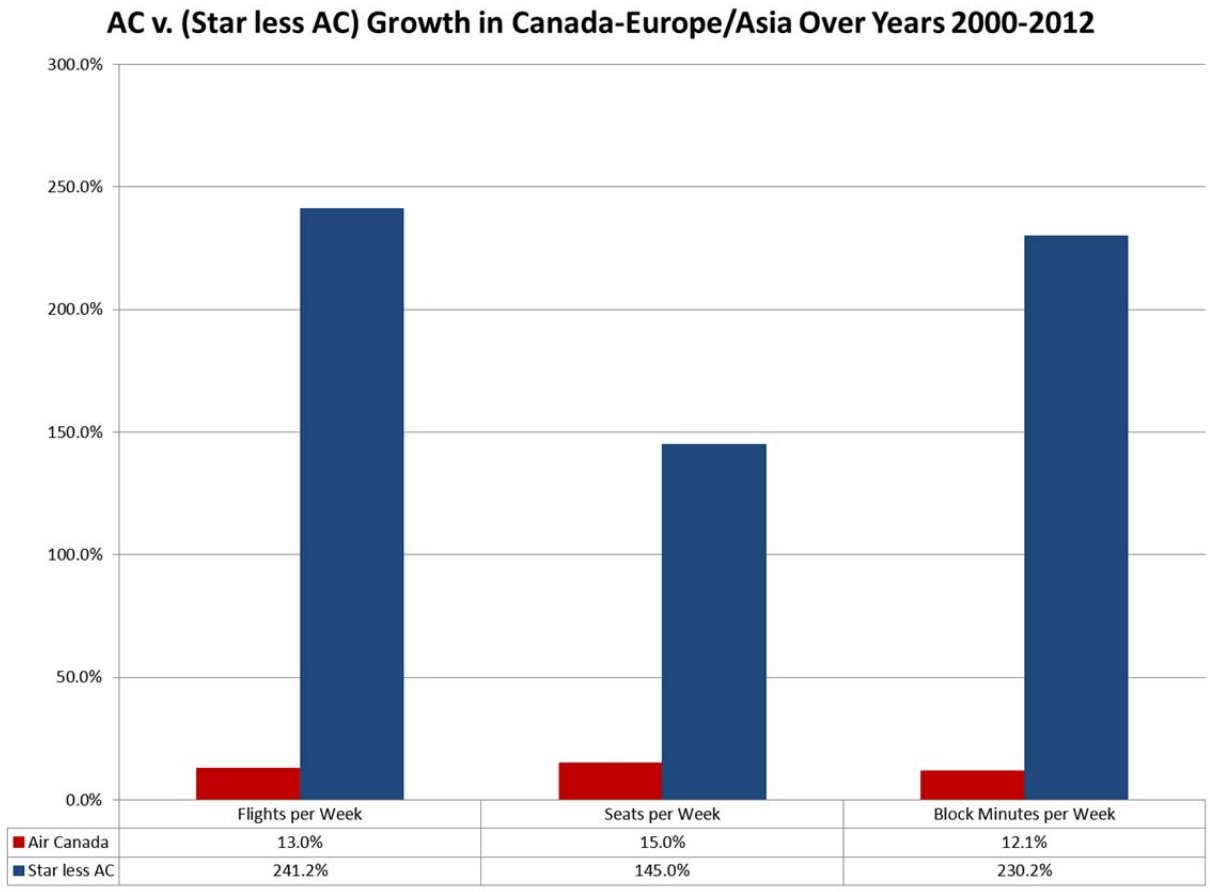



*Source: industry schedule data as filed by the carriers via diio/Seabury*

Over the period July 2000 (including Canadian Airlines in the base) to July 2012, in the Canada-Europe/Asia markets combined, Air Canada's growth in seats was 15.0%, compared with 145% growth by Star Alliance carriers less AC.

Using the closest proxy for pilot resource requirements, Air Canada's growth in block minutes was 12.1% compared with Star less AC growth of 230.2%, while Air Canada's growth in flights was 13.0%, compared with 241.2% by Star less AC.

Whether in Europe (predominantly ATI'd JV markets) or Asia (predominantly non-ATI'd), Air Canada's growth in flying lagged that of Star Alliance carriers less AC.

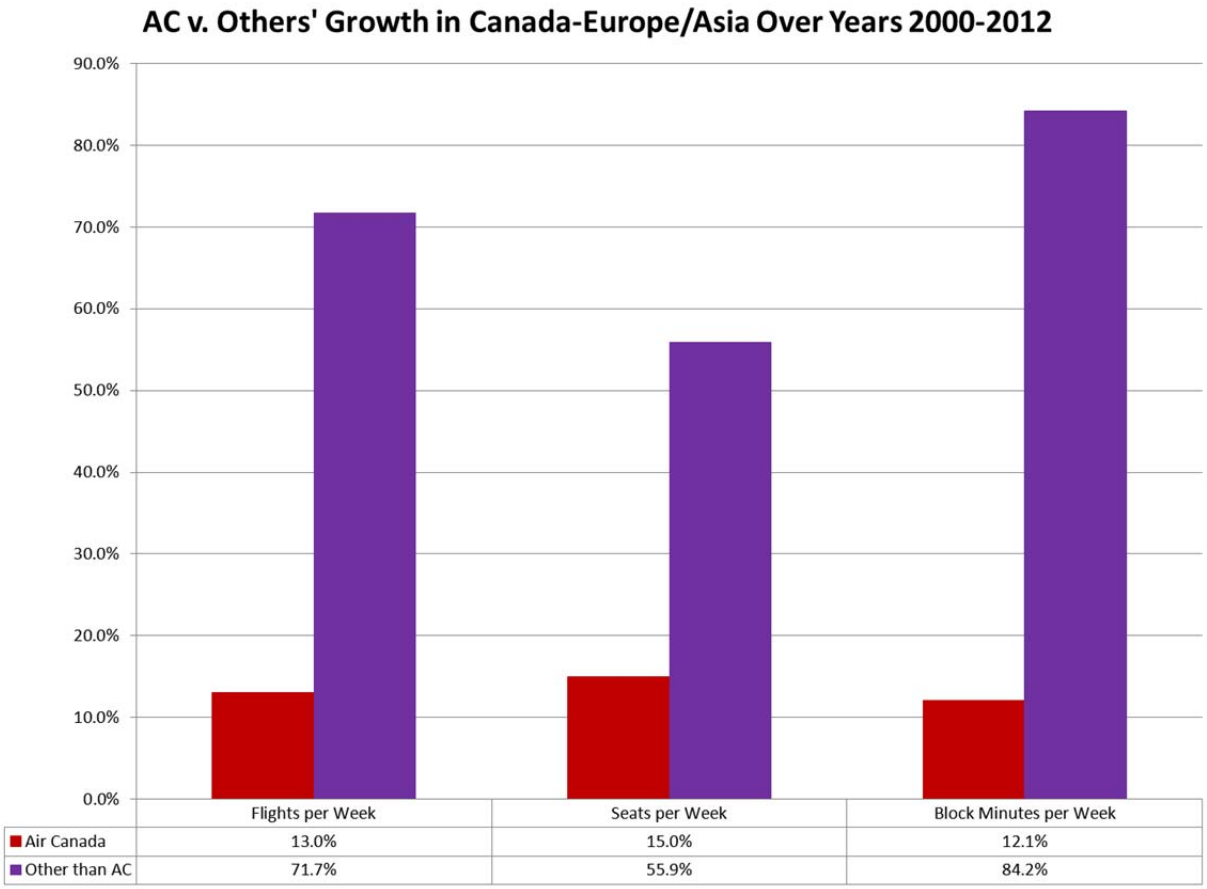



*Source: industry schedule data as filed by the carriers via diio/Seabury*

Air Canada's (AC plus CP) growth versus all other carriers ('Other than AC') over the period July 2000-July 2012, in the Canada-Europe/Asia markets combined, lagged all other carriers' growth in flights, seats and flying (block minutes), comparable to Air Canada's lagging performance relative to Star (less AC).

Air Canada's growth rate in flying (block minutes) was one-seventh of Others', while Air Canada's growth rate in flights and seats were less than one-fifth and one-quarter the Others' rates, respectively.

As noted previously, Air Canada block hour and flight growth were significantly less than comparator carriers and were independent of market structure, AC lagging both Star and Others in both predominantly ATI JV'd Europe and predominantly non-ATI'd Asia.

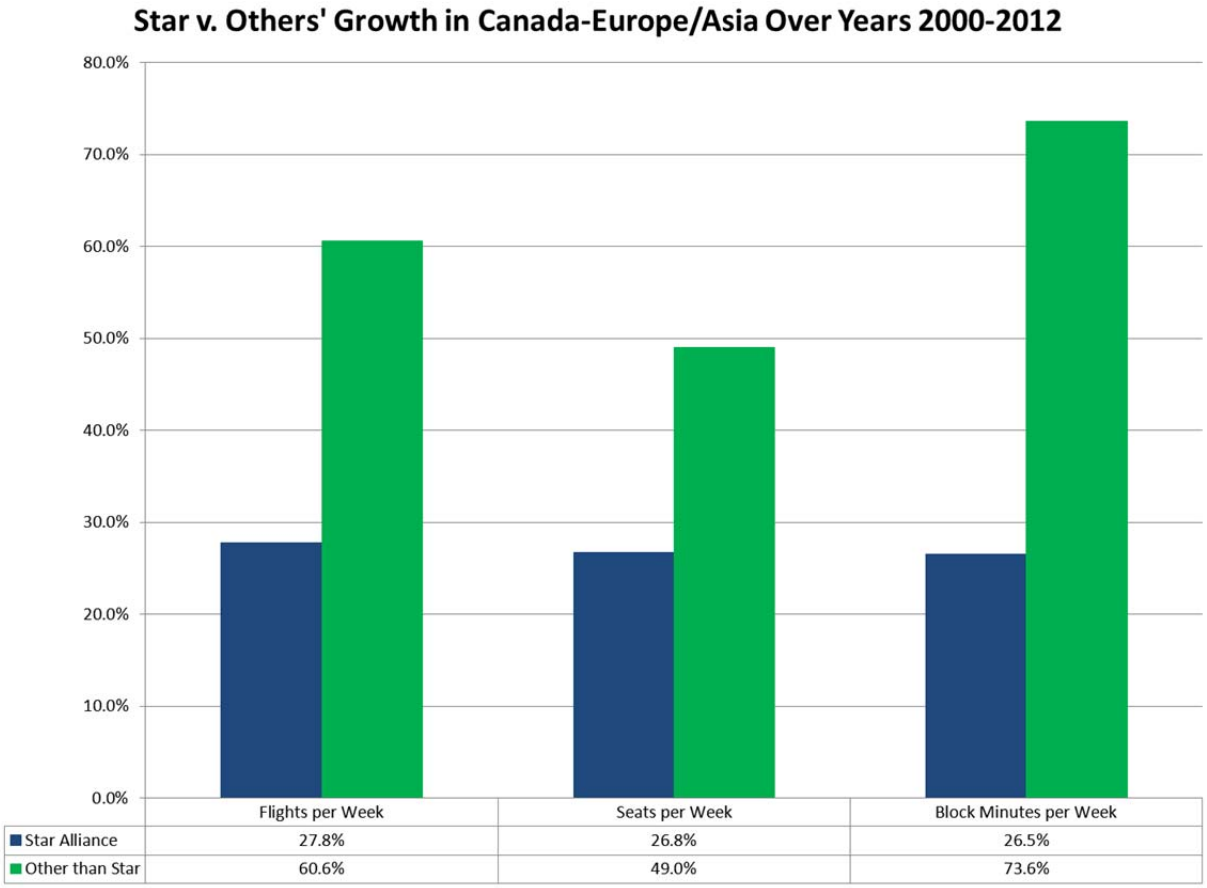



| | Flights per Week | Seats per Week | Block Minutes per Week |
|---|---|---|---|
| Air Canada | 13.0% | 15.0% | 12.1% |
| Other than AC | 71.7% | 55.9% | 84.2% |

*Source: industry schedule data as filed by the carriers via diio/Seabury*

Now comparing Star carriers to Other Than Star Alliance carrier performance over the period July 2000-July 2012, in the Canada-Europe/Asia markets combined, Star showed lower rates of growth in each of block minutes, flights and seats.

Carriers Other Than Star Alliance carriers grew at double (or more) the Star carrier rate – almost three times the rate of growth in block minutes (flying), more than twice the rate of growth in flights, and almost twice the rate of growth in seats.

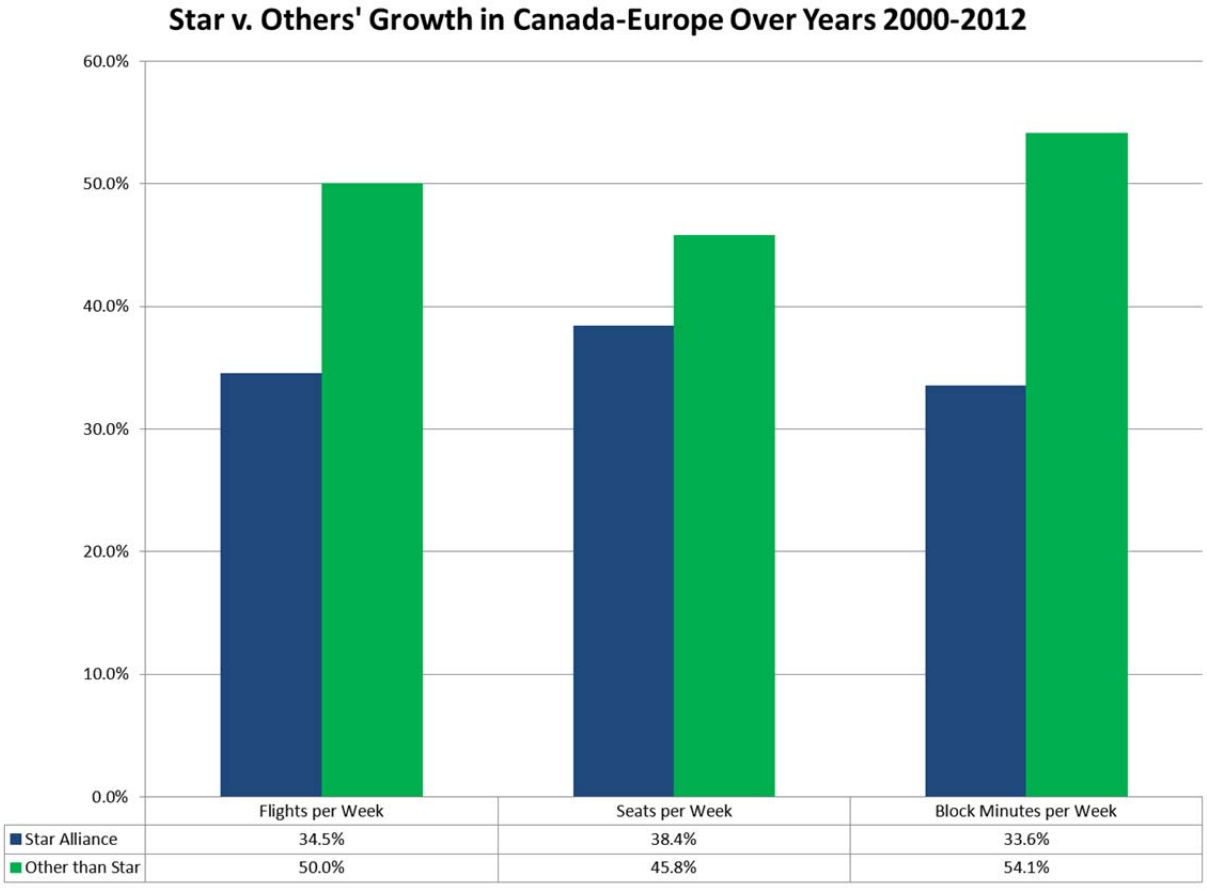



*Source: industry schedule data as filed by the carriers via diio/Seabury*

In the Canada-Europe markets, over the period July 2000-July 2012, Star carriers once again showed lower rates of seat, flight and block minute growth than Other Than Star carriers.

Star carrier rate of growth in flying was 20.5 points less than Others' growth over the 12 year period – no evidence of a favorable impact from Star ATI'd JVs and code-sharing in competition with Others – while the 12 year rates of growth in flights and seats were 15.5 and 7.4 points less than Others', respectively.

***This strongly suggests that Star carriers on Canada-Europe performed as the foreclosure thesis suggests.***




| | Flights per Week | Seats per Week | Block Minutes per Week |
|---|---|---|---|
| Star Alliance | 34.5% | 38.4% | 33.6% |
| Other than Star | 50.0% | 45.8% | 54.1% |

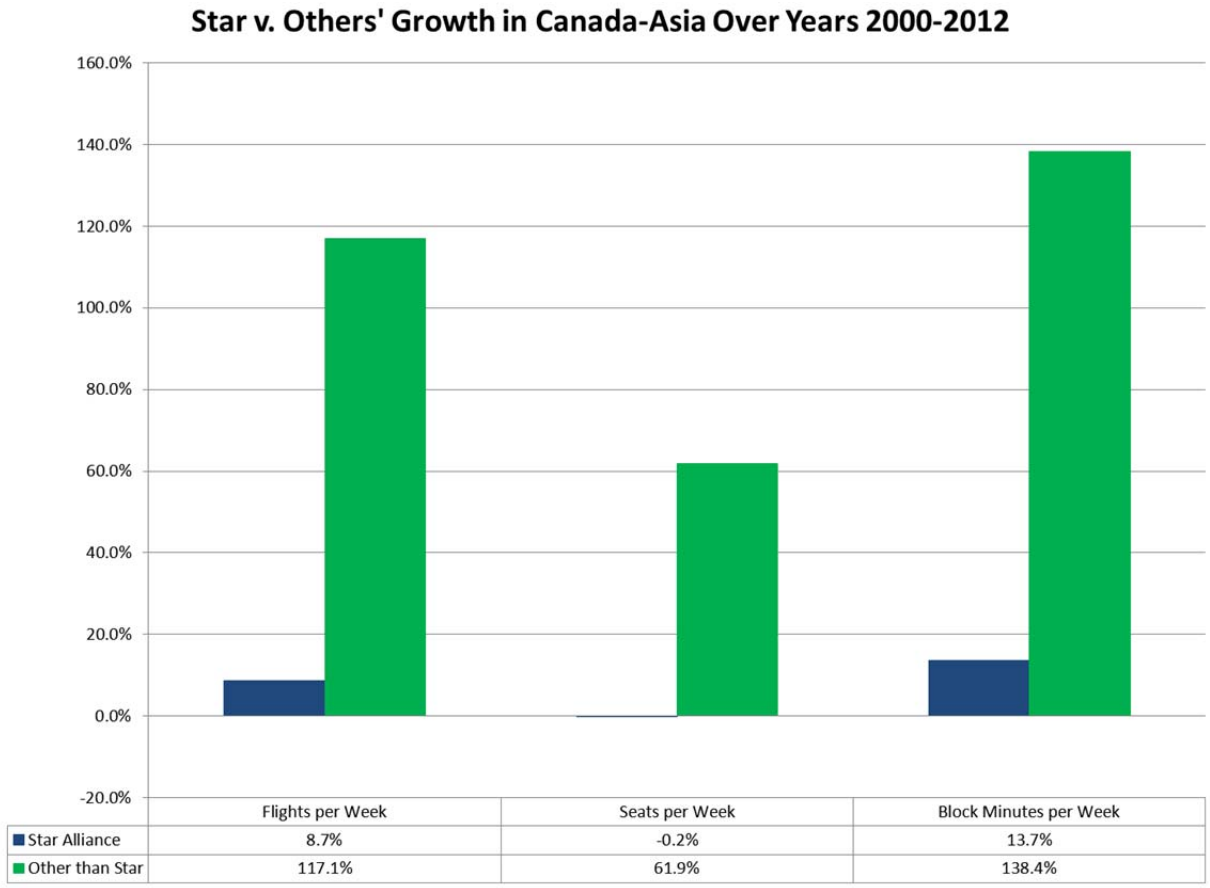
*Source: industry schedule data as filed by the carriers via diio/Seabury*

Comparing Star carriers to Other Than Star carrier performance over the period July 2000-July 2012, in the Canada-Asia markets, Star carriers showed significantly lower rates of growth on all three activity metrics.

On Canada-Asia, Star carrier growth in capacity (seats) was negative, a (0.2)% decline, and a cumulative 62 points below Others' growth over the 12 years.

Star carrier growth in flights and block minutes were less than one-tenth the growth by Others, and a 12 year cumulative 108 and 124 points less than Others' growth on flights and flying.

***There was apparently no favorable capacity or flying growth impact from Star code-sharing on Canada-Asia versus Other Carriers' growth, once again suggesting the foreclosure thesis has validity.***




| | Flights per Week | Seats per Week | Block Minutes per Week |
|---|---|---|---|
| Star Alliance | 8.7% | -0.2% | 13.7% |
| Other than Star | 117.1% | 61.9% | 138.4% |

*Source: industry schedule data as filed by the carriers via diio/Seabury*

In summary, where Air Canada (as defined, including Canadian) and Star ATI'd JVs competed with Others and Other than Star alliances' ATI'd JVs to largely deregulated 'Open Skies' Europe, the 12-year growth in capacity was in each case a fraction of Others' growth. Star carrier growth in block minutes and flights was less than Others, and Air Canada block hour and flight growth was less than Star less AC.

Similarly, where Air Canada and Star competed with largely regulated/restricted entry markets and only recently ATI'd JVs to Asia, Others' capacity growth was more robust than Star's, while Air Canada's was less than Star less AC's.

On Canada – Europe/Asia routes combined, Air Canada block minute, flight and seat growth over the 12 years was less than Star less AC carrier growth, and Star carrier activity statistics evidenced less growth than Other than Star carriers.

Air Canada did not see comparable or proportional growth in any measure of capacity or flying.

We earlier noted the long-term trend in Atlantic fares on US carriers before and after code-sharing, alliances and ATI'd JVs, illustrating how consolidation had allowed the US industry to harvest consumer surpluses.

**Summary of Comments on the Industry Rationale – Relevance, Issues and Omissions**

The industry's code-share rationale serves primarily as a tutorial, although not mentioning the impact of significant events and fundamental data, gives little attention to the impact of ATI'd joint ventures, and does not address at all the issue of proportionality of opportunities and benefits (volume and quality of flying) to operating crew (pilots, flight attendants).

The industry's rationale overstates the impact of code-sharing as a driver of capacity, while focusing exclusively on allegedly code-sharing related benefits without acknowledging that they inure to the benefit of the carrier. The report states that capacity growth (whether in existing markets or new market entry) was or would have been limited in the absence of code-sharing, which it has neither attempted to nor can it isolate or prove.

The industry's rationale gives little significance to landmark, game-changing factors including economic and disposable personal income growth, foreign trade growth, historic deregulation of internal/domestic air travel markets and development of "open skies" in international air travel markets, changes in key supply costs, efficiency-creating aviation technological developments, and exogenous geopolitical and financial markets events. The Report does not mention and offers no objective control case to account for and isolate the influence on capacity of these factors.

The industry's rationale conflates pilot benefit (volume and quality of flying) with carrier benefit (profit), or simply believes that a "trickle-down effect" occurs naturally and inures to the benefit of pilots, somewhat like the disproven "Laffer Curve" and "Voodoo-nomics" arguments of years back. In my experience, pilot groups are long-term sceptics on this matter and continue to invest significant effort to ensure that the scope clauses in their collective agreements incorporate evolutionary developments in industry business models, scope thus remaining controlling and enforceable.

The industry's rationale minimizes the relevance of alliance and joint venture-driven effects, despite all alliances and anti-trust immuned ("ATI") JVs incorporating metal-neutral code-sharing arrangements and allowing greater inter-carrier collaboration on traffic routing, capacity and pricing.

ATI facilitates coordination which can maximize profit while destroying demand via permitted coordination of scheduling, capacity, pricing and revenue management, collectively driving up average fares and load factors. Regulator-mandated JV "metal neutrality" desensitizes distribution channels to passenger routing and the identity of a flight's operator, providing management with desired flexibility, but is deleterious to pilots' interests – proportional growth in "own metal" flying.

The industry's rationale tends to be written in the manner of carrier submissions to regulators arguing for approval to code-share, enter alliances and for anti-trust immunity. They rely on 1990s academic opinions and 1990s modeling, with which recent industry structure, data and results do not conform, the current relevance of which numerous independent analysts question.

It should be no surprise that carriers that code-share as part of alliances and JVs with ATI carry greater traffic shares on the hub-hub and country-country routes they dominate. Leveraging virtual frequency additions drives them higher on the "S-curve" achieving superior local traffic share and revenue/fare mix. Code-sharing carriers exploit each other's native comparative advantage with respect to distribution systems and market presence/dominance.

The overall result is a share shift in the markets carriers choose to dominate. They win where they choose to code-share, but lose where forced to retreat by competitors where competitors code-share. The marketplace is efficient and the frequent traveler population is informed, ever more aware of the travel-day limitations, and increasingly less influenced by claims about synthetic, so-called "seamless service", much as the marketplace became immune to the virtual flight numbering and distribution system display antics of the 1980s.

Over the long-term one could argue, and recent data has begun to support, that code-sharing is a zero-sum game at the industry level and does not – contrary to the 1994 GRA model and late

1990s academic thesis – by definition add capacity, especially in behind and beyond markets that represent two-thirds of intercontinental flight loads and are reachable and covered by all three synthetic code-share networks of competing alliances and ATI'd JVs – as well as fast growing Gulf carriers.

More ominously, the emerging foreclosure thesis suggests that as the industry consolidates and competes via three alliances, alliances and individual airlines have less incentive to enter markets involving competing alliances' hubs and further that an airline/alliance will be less likely to enter with non-stop service a market it already serves on a one-stop basis.

US-Europe/Asia fare trends 1990-2012 as well as Canada-Europe/Asia market and activity data over the years 2000-2012 reinforce the foreclosure thesis.

The code-sharing and alliance gig is up.