

**DEPARTMENTS OF COMMERCE, STATE, AND TRANSPORTATION
WASHINGTON, D.C.**

_____)	
Information on Claims Raised About State-Owned)	Dkt. Nos.
Airlines in Qatar and the UAE)	DOC-2015-0001
_____)	DOS-2015-0016
_____)	DOT-OST-2015-0082
_____)	

**EMIRATES REBUTTAL RESPONSE TO
ADDITIONAL LEGACY CARRIER DOCKET SUBMISSIONS**

Emirates hereby submits additional documentation rebutting submissions by the Partnership for Open & Fair Skies, Delta Air Lines, American Airlines, and United Airlines (collectively, the “Legacy Carriers”) that have been placed on the online dockets. This Response is submitted in accordance with the procedures established by the U.S. Departments of Commerce, State, and Transportation (the “Departments”).

On May 5, the Departments published a notice announcing an open forum for stakeholders to provide comments and submit information regarding Legacy Carrier allegations.¹ On July 8, the Departments supplemented this procedure, providing that information in response to the May 5 notice must be submitted by August 3, and that additional materials commenting on information submitted to the dockets must be submitted by August 24.²

¹ Information on Claims Raised About State-Owned Airlines in Qatar and the UAE, 80 Fed. Reg. 25,671 (Dep’ts Commerce, State & Transp. May 5, 2015).

² Information on Assertions Raised About State-Owned Airlines in Qatar and the UAE, 80 Fed. Reg. 39,059 (Dep’ts Commerce, State & Transp. July 8, 2015).

In accordance with the May 5 notice, Emirates submitted, on June 29, a comprehensive response to the “White Paper” allegations presented by the Legacy Carriers. That response demonstrated conclusively that allegations regarding government subsidies to Emirates are false.

Emirates submits this rebuttal pursuant to the July 8 notice, principally to respond to the two Compass Lexecon Reports submitted by the Legacy Carriers, and to the Legacy Carrier answers to the Technical & Clarification Questions on the Gulf Subsidies Report posed by the U.S. government agencies (the “Technical & Clarification Questions”). Of the Technical & Clarification Questions which relate to harm caused to the Legacy Carriers by Gulf Carrier competition, the Legacy Carriers have relied heavily upon the Compass Lexecon Reports for their answers.³ Emirates also responds to the Position Paper submitted by Mr. William Swelbar and posted to the dockets on August 3, 2015.

This rebuttal submission therefore consists of three sections. The first section demonstrates that the Legacy Carriers’ legal arguments made in their responses to the Technical & Clarification Questions are simply wrong. The Legacy Carriers ignore the only truly applicable law—the U.S.-UAE Open Skies Agreement—and persist in their misleading attempt to make their case under irrelevant law of the WTO, the application of which to aviation services they themselves have opposed. The Legacy Carriers then compound this legal error by asking the United States to take an action that *would* violate the Open Skies Agreement, a freeze on Gulf Carrier landing rights pending the conclusion of bilateral consultations.

³ Darin Lee & Eric Amel, Compass Lexecon, Assessing the Impact of Subsidized Gulf Carrier Expansion on U.S. International Passenger Traffic (May 13, 2015) [hereinafter Compass Lexecon May Report]; Darin Lee & Eric Amel, Compass Lexecon, Assessing the Impact of Subsidized Gulf Carrier Expansion on U.S.-International Airfares and Passenger Traffic (Apr. 9, 2015) [hereinafter Compass Lexecon April Report]; Partnership for Open & Fair Skies Responses to Technical & Clarification Questions on the Gulf Subsidies Report (Jun. 2, 2015) [hereinafter Legacy Carrier Answers].

The second section of this submission focuses on the Legacy Carriers' complete failure to demonstrate that they have been harmed by Gulf Carrier competition. In trying to make their case for harm, the Legacy Carriers rely principally on two reports by Compass Lexecon. Those reports fail to make the case, which is shown definitively in the rebuttal report prepared by the aviation experts Campbell-Hill Aviation Group. The comprehensive Campbell-Hill report is attached to this submission. The second section of this Response summarizes some of Campbell-Hill's most important conclusions.

The Legacy Carriers' response also renews the false claim that the presence of Gulf Carriers in the U.S. market causes a reduction in U.S. employment. The second section of this paper also exposes the fallacy of the Legacy Carriers' position on that issue.

The third section briefly responds to the Swelbar position paper. Virtually all of that document consists of recycled arguments that Emirates' June 29 submission has already addressed. The one new issue raised in the Swelbar paper is possible effects of Gulf Carriers on smaller airports. The third section of this paper details the errors in Mr. Swelbar's sloppy analysis of this issue, and shows his conclusions to be wrong.

This submission does not address the question of subsidy. The reality that Emirates is not subsidized was definitively established in Emirates' June 29 submission. Emirates demonstrated that each of the Legacy Carriers' subsidy allegations regarding Emirates was provably false:

- the contention regarding fuel hedging subsidies is riddled with factual errors and did not occur as falsely alleged;
- the allegation regarding related party transactions was never documented and has been definitively contradicted by Emirates independent auditors' opinion;

- the allegations regarding airport infrastructure and user fees at Dubai airport are false, do not on their face amount to a violation of the Open Skies agreement, and would not violate WTO principles if those principles even applied; and
- the allegation regarding labor practices neither advances a coherent legal theory nor is supported by any facts related to Emirates, one of the most respected employers in the airline industry.

I. The Legacy Carriers persist in arguing their case under irrelevant WTO and U.S. subsidy rules, while asking the United States to *violate* the only law that actually applies: the U.S.-UAE Open Skies Agreement.

In their answers to U.S. Government questions the Legacy Carriers claim authority of “WTO and U.S. subsidy rules,”⁴ but never even try to demonstrate that those rules govern this dispute. In fact, neither WTO nor U.S. subsidy rules apply to air transport services, as Emirates has definitively shown.⁵ The United States has consistently opposed subjecting aviation services to WTO rules, opposition that has been strongly supported by the Legacy Carriers themselves.⁶

The Legacy Carriers effectively admit that there has been no violation of the Open Skies Agreements in their answers to questions. Asked in question 25 to identify the specific provisions of the bilateral aviation agreements under which they seek redress, they are unable to do so. Instead, they lamely note that a violation need not be alleged to request consultations and

⁴ Legacy Carrier Answers at 15, 20 (answers to questions 7 and 11). In question five, the Legacy Carriers respond to a question by the U.S. Government regarding the connecting passenger fee allegation. *See id.* at 11.

⁵ *Emirates’ Response to Claims Raised About State-Owned Airlines in Qatar and the United Arab Emirates* 66–69 [hereinafter Emirates’ Response].

⁶ *See* Juan A. Marchetti & Petros C. Mavroidis, *The Genesis of the General Agreement on Trade in Services*, 22 *European Journal of International Law* 689, 713–19 (2011); *Hearing on Whether International Airline Services Should Be Included in the General Agreement on Tariffs and Trade (GATT): Hearing Before the Subcommittee on Aviation of the House Committee on Public Works & Transportation*, 101st Cong. 24 (1989) (statement of Richard B. Self, former Deputy Assistant U.S. Trade Rep. and lead U.S. services negotiator) (“Industry officials have made themselves clear that they do not want trade rules to extend to this industry. . . . [Y]our committee should be aware that many countries, including some of our major trading partners, believe that civil aviation should be included in some form in the services understanding.”).

suggest that the United States exercise “the unilateral right to terminate the agreements for any reason with one year’s notice,”⁷ rather than address any alleged violation of the agreements.

The Legacy Carriers then proceed, in their response to question 26, to urge the U.S. Government to violate those bilateral agreements. When asked what outcome the Legacy Carriers wanted out of the consultations they urge, the Legacy Carriers ask the U.S. Government to “freeze the routes, capacity and frequency of the Gulf carriers”⁸—in direct contravention of the Open Skies Agreement which obligates the U.S. Government to grant unrestricted landing rights to UAE carriers.⁹ The only violation of governing law in this entire case is the violation that the Legacy Carriers ask the United States to commit.¹⁰

II. The facts establishing that the Legacy Carriers have not been harmed have become even stronger, and the Compass Lexecon reports on which the Legacy Carriers rely are not credible.

The Legacy Carriers have not established that they have been harmed by Gulf Carrier competition. To the contrary, the facts which demonstrate that no harm has been caused—record profits, highly successful and growing transatlantic operations, and the Legacy Carriers’ failure to demonstrate any actual loss of traffic to the Gulf Carriers—have, if anything, become more pronounced since Emirates’ June 29 submission. To note just one example, Emirates’ submission pointed to United Airlines’ record \$585 million first quarter profit, excluding special

⁷ Legacy Carrier Answers at 77.

⁸ *Id.*

⁹ Air Transport Agreement Between the Government of the United States of America and the Government of the United Arab Emirates, U.S.-UAE, art. 2, Mar. 11, 2002 [hereinafter U.S.-UAE Open Skies Agreement].

¹⁰ As Emirates pointed out in its response, a senior Administration official made clear that “[a] unilateral decision by us to freeze capacity would be a major breach of the Open Skies agreements.” Emirates’ Response at 69 (citing Ashley Halsey III, *U.S. Airlines Seek Federal Help in Dogfight with Persian Gulf Carriers*, Washington Post, May 11, 2015, available at http://www.washingtonpost.com/local/trafficandcommuting/us-airlines-in-dogfight-with-persian-gulf-carriers/2015/05/11/26dda076-e1ea-11e4-905f-cc896d379a32_story.html).

items.¹¹ Since Emirates' submission, United announced its highest-recorded profit for any quarter—for the second quarter of 2015—a quarterly profit of \$1.2 *billion* excluding special items.¹² United is not alone: American Airlines too reported its highest quarterly profit in company history, also for the second quarter of 2015, possibly the highest quarterly earnings of any commercial airline in history.¹³

This high profitability and lack of harm are underscored by United's decision to launch a \$3 billion stock buy-back initiative, rather than invest its record profits in its business and customers. As United's own pilots have pointed out, United flies an aging fleet of planes that are increasingly less competitive. The Chairman of the Air Line Pilots Executive Council decried underinvestment by United in its fleet, and wrote, "The company apparently has a spare \$4 billion to fritter away but not enough to invest in our airline and in our customers."¹⁴ Emirates has already pointed out that Emirates' average fleet age is just 6.5 years, while American's is 12.9 years, United's is 13.6 years, and Delta's is 17.1 years.¹⁵ If they cared about their

¹¹ Emirates' Response at 88–89 & n.207.

¹² Press Release, United Airlines, United Announces Highest-Ever Quarterly Profit (July 23, 2015), *available at* <http://newsroom.united.com/2015-07-23-United-Announces-Highest-Ever-Quarterly-Profit>.

¹³ Press Release, American Airlines Grp., American Airlines Reports Highest Quarterly Profit in Company History (July 24, 2015), *available at* <http://phx.corporate-ir.net/phoenix.zhtml?c=117098&p=irol-newsArticle&ID=2070848>; American Airlines Group (AAL) Earnings Report: Q2 2015 Conference Call Transcript, *TheStreet* (July 24, 2015, 3:09 PM), <http://www.thestreet.com/story/13231227/1/american-airlines-group-aal-earnings-report-q2-2015-conference-call-transcript.html> ("Doug Parker (Chairman, CEO): . . . While we are not keepers of all industry data, we think, since was the highest earnings of any airline this quarter, we think it's the highest quarterly earnings that any commercial airlines ever reported in a quarter."). *Airline Weekly* (July 20, 2015) confirmed that American's "monstrous \$1.9b net profit excluding special items [is] the highest quarterly profit for any airline in history, anywhere in the world, according to Airline Weekly records."

¹⁴ Letter from Captain Jay Heppner, Chairman, United Master Executive Council, Air Line Pilots Association, to United Pilots (July 24, 2015) (The full quote is: "*The company apparently has a spare \$4 billion to fritter away but not enough to invest in our airline and in our customers.* UAL's chairman, president and chief executive officer stated, 'The \$3 billion share repurchase program we announced [Thursday] demonstrates the confidence we have in our future.' *Unfortunately, our customers do not share his confidence, and are voting with their pocketbooks.* On behalf of the 84,000 loyal United Airlines employees who want to work for the best airline in the world, we share their frustration and, yet again, apologize to our customers.") (emphasis added).

¹⁵ Emirates' Response at 187–88.

customers and American jobs—rather than just quarterly profits—United, American, and Delta (the latter of which is returning \$7 billion to shareholders) would invest their record profits in newer airplanes, more flights, and better service, not stock buybacks and lobbying activity to unfairly restrict competition.

Emirates has also pointed out the errors committed by the Legacy Carriers in claiming harm due to alleged loss of market share and alleged overexpansion of capacity. In fact, the Legacy Carriers have not shown either overcapacity or loss of traffic to the Gulf Carriers.¹⁶ In addition to their original White Paper, the Legacy Carriers have subsequently submitted two different but overlapping reports from their consultants Compass Lexecon purporting to demonstrate harm. These two reports have now been analyzed in detail by the aviation experts Campbell-Hill.¹⁷ The Campbell-Hill report, attached to this document, uncovers and documents alarming flaws in the Compass Lexecon reports, flaws that render Compass Lexecon's conclusions invalid.

Specifically, the Campbell-Hill report and the summary in this document rebut the two principal elements of the Compass Lexecon reports: (1) the allegations that the presence of Gulf Carriers has created overcapacity; and (2) the Compass Lexecon regression analyses and their purported demonstration that the presence of Gulf Carriers in the market harms the Legacy Carriers. Both of these contentions are incorrect.

A. The Legacy Carriers and Compass Lexecon have failed to make the case that there is overcapacity.

¹⁶ *Id.* at 109–37.

¹⁷ Campbell-Hill Aviation Group, *The U.S. Legacy Carriers Have Suffered No Harm and the Consumer Has Benefited Greatly from Better Competition by the Gulf Carriers: Rebuttal to the Compass Lexecon Reports Dated April 9, 2015 and May 13, 2015*, at 4–7 (Aug. 24, 2015) (attached as **Exhibit 2**) [hereinafter Campbell-Hill Report].

In alleging that Gulf Carrier competition has created overcapacity,¹⁸ the Legacy Carriers cite an April 9, 2015 report by Compass Lexecon (“April Report”).¹⁹ But Compass Lexecon’s April Report fails to show that overcapacity exists. Despite repeated contentions, Compass Lexecon never once mentions load factors, capacity utilization, or yields--all key measures of capacity. Instead, Compass Lexecon deploys, without any documentation, conclusory phrases like “glut of subsidized capacity,”²⁰ and “excess capacity resulting from large increases in supply by subsidized government-owned carriers.”²¹ The fact that Compass Lexecon merely infers the existence of excess capacity, rather than proving it, is admitted: “overcapacity” is “a potential (and expected) result” when “airlines . . . make capacity decisions on criteria other than profitability.”²² But, conveniently, Compass Lexecon ignores that Emirates has been consistently profitable for the past 27 consecutive years.

These conclusory phrases are nothing more than a syllogism: they contend that there will be overcapacity if there is subsidization. Not only is the conclusion of Compass Lexecon’s syllogism—that there is overcapacity—not demonstrated, the premise—that there is subsidization—is demonstrably untrue for Emirates.

The Legacy Carriers bear the burden to show facts, but Compass Lexecon at no place undertakes actually to demonstrate the existence of excess capacity. Excess capacity is *assumed*, not demonstrated. There is a reason for this: the allegation is readily shown false by an examination of load factors. The attached Campbell-Hill report demonstrates this. Given the

¹⁸ See, e.g., Legacy Carrier Answers at 23–39.

¹⁹ Compass Lexecon April Report.

²⁰ *Id.* at 2.

²¹ *Id.* at 8.

²² *Id.* at 6.

routes operated by the Legacy Carriers, their competition with Emirates is transatlantic. Yet the Legacy Carriers' transatlantic load factors are high, and do not betray any sign of unused capacity. Legacy Carrier transatlantic load factors averaged 83.2% in 2013 and 81.2% in 2014, never lower than 76.6% (American in 2014) and as high as 84.3% (Delta in 2013).²³ Even more revealing is the fact that the Legacy Carriers' high transatlantic load factors are very similar to their transpacific and Latin American load factors. It is hard to contend that alleged overcapacity is causing harm when the load factors on transatlantic routes—precisely where the Gulf Carriers are present—are not notably less than load factors on routes where the Gulf Carriers are not present.²⁴ Indeed, in discussing the New York-Milan route, Compass Lexecon ignores the very load factors it reports in its own exhibit.²⁵ Delta's very high load factor of 88.3% on its New York-Milan route is hardly an indicator of harm from alleged overcapacity.²⁶ Further underscoring this point is the fact that the Legacy Carriers maintained their high transatlantic load factors even as they *increased* nonstop capacity between their U.S. hubs and European hubs by 30.4% between 2010 and 2014.²⁷

If there were overcapacity, that excess capacity should reduce yields for the Legacy Carriers. Indeed, one would expect this to be a centerpiece of the Legacy Carrier argument. But yield analysis is nowhere to be seen in the Legacy Carrier submission or the Compass Lexecon reports. The reason for this, of course, is that yield analysis shows that the Legacy Carriers are *not* being harmed. As the Campbell Hill report points out, Atlantic Division yields for the

²³ Campbell-Hill Report at 8.

²⁴ *See id.*

²⁵ *See* Compass Lexecon April Report at 15–18.

²⁶ *Id. ex.7.*

²⁷ Campbell-Hill Report at 9.

Legacy Carriers are high and increasing: from 2010 to 2014 those yields increased an average of 15.8%.²⁸ In fact, the increase in Atlantic Division yields, where competitive effects should be felt if they exist, stand in stark contrast to declines over the same time period of Pacific and Latin American Division yields,²⁹ where there is little or no competition from the Gulf Carriers in those divisions. The Legacy Carriers, in short, are not suffering any effects of alleged Gulf Carrier overcapacity.

B. The Compass Lexecon regression analyses reflect only their own assumptions and structural errors, and do not demonstrate harm.

It is difficult for an industry to show it is suffering competitive harm when it is making record-level profits. It is even more difficult when that profitable industry has not actually lost any business to the competitors about which it complains. Having no hope of demonstrating actual competitive harm, the Legacy Carriers have placed statistical regression analyses by Compass Lexecon at the center of their argument.

This is a clever move. The supposed conclusions of a regression analysis can be trumpeted widely with confidence that few will work through the simplistic assumptions and structural defects that shape those conclusions. That has happened here. The Compass Lexecon regression analyses have been promoted widely by the Legacy Carriers' public relations teams, but until now, subjected to almost no critical scrutiny.

In fact, the Compass Lexecon analyses demonstrate nothing. Their conclusions do not reflect the facts, but instead reflect unsubstantiated assumptions and questionable analytical specifications. This should not be surprising. The Legacy Carriers cannot show that they have lost traffic by a straightforward analysis of traffic data. Their claim that a regression analysis

²⁸ *Id.* at 10.

²⁹ *Id.*

shows a loss that, in fact, cannot be found directly in those data is a good indication that there is something wrong with the regression analysis.

The detailed report by Campbell-Hill explains why the regressions cannot be relied upon to support the Legacy Carriers' assertions. Campbell-Hill also proceeded to conduct a simple regression analysis that eliminates the errors made by Compass Lexecon. This analysis shows that when errors are removed from the regressions, higher Gulf Carriers bookings *are not* associated with lower Legacy Carrier/joint venture partner bookings. Harm has not been caused by Emirates or the Gulf Carriers.

A few of the most critical flaws of Compass Lexecon, and the findings of Campbell-Hill, can be summarized as follows:

The Compass Lexecon regression analyses assume that the Legacy Carriers are simply entitled to maintain their existing share of a market as that market grows. The Compass Lexecon regressions, perversely, conclude that the Legacy Carriers have lost traffic even when they have gained it. If the Legacy Carriers have an 80% share of a 100 passenger market (80 passengers) and the market grows to 150 as a result of consumer-focused actions of other airlines, the Compass Lexecon model assumes that the Legacy Carriers are entitled to 40 of the 50 additional passengers: that they are entitled to 80% of the growth, and to have 120 passengers. If the Legacy Carriers' traffic grows by only 30 passengers, and not by 40, the regression model reports that they have *lost* 10 passengers that they should have had.

This, of course, is not correct. In fact, the Legacy Carriers have not lost any passengers. They have *added* 30 passengers and have not been harmed at all. The supposed harm is entirely a figment of the assumption that the Legacy Carriers are "entitled" to a constant market share. The regressions thus propagate the same flaw that undercuts the Legacy Carriers' White Paper:

premising the harm argument on loss of market share, rather than loss of traffic. The shortcomings of this were pointed out at pages 109–130 of Emirates’ June 29, 2015 submission.

The regressions fail to look at the actual volume of Gulf Carrier bookings. Compass Lexecon structured its analyses to test whether the “presence” of a Gulf Carrier on a route had effects on the Legacy Carriers. “Presence” is defined as holding a 3% or greater market share. This is an odd and indefensible approach to the problem. The question is whether competition from the Gulf Carriers has effects. Even in a market share analysis, which is illegitimate in itself, competition is very different at the level of 3% share than it is at the level of 25%. Yet the Compass Lexecon analysis treats a 3% and 25% share as the same. This unorthodox approach explains some of the nonsensical results that are seen in the analysis, such as the mystifying finding that a Gulf Carrier 3% market share could somehow cause an 8% drop in the Legacy Carriers’ share.

While it is not clear why Compass Lexecon used this questionable approach (their report offers no justification), it is instructive to see what happens when actual volumes of bookings by Gulf Carriers are used instead. The Campbell-Hill analysis plots the relationship between the change in Gulf Carrier bookings on the one hand, and the change in Legacy Carrier and joint venture bookings on the other.³⁰ In the case of bookings in the India and ASEAN markets, and there is a positive relationship—just the opposite of what the Legacy Carriers allege: Legacy Carrier and joint venture bookings grew as Gulf Carrier bookings grew.³¹ In Middle East markets, changes in Legacy carrier and joint venture bookings did not show any relationship.³²

³⁰ *Id.* at 32–36.

³¹ *Id.* at 33 chart 9, 34 chart 10.

³² *Id.* at 36 chart 12.

The only market where there is even a suggestion of an effect is Africa, a market about which the Legacy Carriers care so little that they did not even address it in their White Paper. And even in the Africa market, both Legacy Carrier/joint venture and Gulf Carrier bookings grew overall. The suggestion of a negative relationship between Gulf Carrier growth and Legacy Carrier/joint venture growth in the Campbell-Hill analysis appears to reflect only the fact that the two groups of carriers grew their Africa business in different years.³³

The regression results are biased by the inclusion of irrelevant markets. One highly suspect feature of the Compass Lexecon regression structure is the fact that it is conducted on a world-wide basis (excluding U.S. itineraries to/from North America and South America, and itineraries starting or ending in Milan). Markets in which the Gulf Carriers and the Legacy Carriers do not compete feature prominently in that analysis. Growth in these markets (*e.g.*, U.S.-Japan/Korea/China and most U.S.-Europe routes, among others) is irrelevant to the issues that the regressions are supposed to examine, but as the equations are structured it nonetheless pollutes the results.

The fare regressions do not weight the markets by size. Over 50% of the markets observed in the Compass Lexecon regressions have *fewer than 10 passengers per year*. But the fare model is structured so that these markets get ***the same weighting*** as markets where there are 10,000 passengers per year or more.

The finding that Gulf Carrier competition has just as much effect on routes Gulf Carriers do not fly as on routes they do fly violates common sense. In the face of all logic, the regressions find that the effects of Gulf Carrier competition is just as great on routes that Gulf

³³ See *id.* at 35 & chart 11.

Carriers don't actually fly as it is on routes that they do fly. This is a clear sign that the regressions are producing meaningless results.

Gulf Carrier flights to the United States terminate at gateway cities, because American law reserves for U.S. airlines the carriage of domestic U.S. traffic from one U.S. city to another. So passengers who arrive at a U.S. gateway, on a Gulf Carrier flight, but who want to travel to a U.S. city beyond the gateway, must connect on a U.S. airline to reach that city. Common sense dictates that competitive effects of Gulf Carrier flights, if they exist at all, will be concentrated on international flights to the gateway cities. Flights beyond the gateway will be far less affected, because the Gulf Carriers do not serve those routes. Yet fully 78% of the markets analyzed in the Compass Lexecon models are these beyond-gateway markets where there is no Gulf Carrier competition.

Despite this obvious issue, the Compass Lexecon regressions calculate almost the same competitive impact on flights beyond U.S. gateways as on flights to the gateways. This simply cannot be true: U.S. airlines will carry all of the traffic on the beyond leg. The presence of Gulf Carriers on international routes to the gateways will at most be a neutral effect on traffic beyond the gateway, and actually is strongly likely to *increase* U.S. carrier beyond traffic, by delivering additional passengers to the gateway. A regression that produces such nonsensical effects is structurally flawed. By comparison, the Compass Lexecon fare regression model (presented only in the April, 2015 report) shows *de minimis* impact by the Gulf Carriers in behind gateway markets.

The Compass Lexecon models do not account for service differences. A key element of Emirates' success in the Indian Subcontinent market is Emirates' ability to offer passengers a single stop connection, on the same airline, between 162 pairs of U.S. and Indian Subcontinent

cities. This service far surpasses that available on Legacy Carrier and joint venture connections, which may require two or more connections over circuitous routings, changes of airline (which may require security rescreening) and connections in geographically less advantageous European hubs. Passengers regularly choose to fly Emirates because of this vastly more extensive and superior service.

Yet the Compass Lexecon regression fails to account at all for such service differences: there is no variable in their regressions to account for differences in the level of service offered. A passenger's decision to choose a 1-stop same airline connection over a multiple stop itinerary on two or more airlines offered by a Legacy Carrier thus is attributed to "the presence of a Gulf Carrier," when in fact it should be attributed to the good sense of the passenger in choosing the most efficient service. Compass Lexecon's approach reduces air transportation to a one-dimensional commodity. It does not matter in the regression analysis whether the passenger spends 22 hours in transit rather than 16: a flight is a flight, a market is a market, and the comfort of the passenger is irrelevant. Perhaps it should not be surprising that the economists retained by Delta, United, and American would ignore quality of service in their analysis.

* * *

These and other debilitating flaws in the Compass Lexecon models are explained and documented in the attached report by Campbell-Hill. The Legacy Carriers have failed to establish that they are harmed by Gulf Carrier competition.

C. The Legacy Carriers continue to misstate the jobs impact of Gulf Carriers in their answers to U.S. Government questions.

Question 22 of the Technical & Clarification Questions asks the Legacy Carriers to explain their methodology for concluding that the entry of Gulf Carriers into the U.S. market has caused a loss of U.S. jobs. The question is carefully worded, seeking a more thoughtful and

complete answer than the Legacy Carriers offered in their White Paper. In particular, the question focused on jobs outside the aviation services industry, asking for details about the methodology employed by the Legacy Carriers to calculate job effects in the tourism and aircraft manufacturing sectors.

In their June 2, 2015, response, the Legacy Carriers simply refused to engage on these points, thereby admitting that their jobs impact argument fails to consider either jobs in the tourism sector or jobs in aircraft manufacturing. The Legacy Carrier response evades these issues by contending that every single Gulf Carrier widebody frequency comes at the cost of a Legacy Carrier frequency.³⁴ This, of course, is nonsense. In this fictional world there is no market growth and no stimulation of traffic through the offering of more convenient service. There are only a fixed number of passengers who will travel on Legacy Carriers, no matter how inconvenient, unless they are tempted to stray to another airline by unfair competition.

The facts, of course, are very different. As Emirates has demonstrated, its entry into U.S. markets has been accompanied by very significant growth of traffic.³⁵ Reducing the time and inconvenience that passengers must invest to reach a destination, Emirates has encouraged more travel. Rather than displacing existing Legacy Carrier service with a duplicative offering, Emirates has provided significantly more convenient service to destinations that could previously be reached only with great difficulty.³⁶ More travel leads to more jobs in tourism, hospitality,

³⁴ Legacy Carrier Answers at 48 (answer to question 22).

³⁵ Emirates' Response at 102–09.

³⁶ *E.g.*, Emirates' Response at 109–17.

and related industries, which is why those industries are strongly opposed to the Legacy Carriers' attempts to subvert Open Skies.³⁷

The Legacy Carriers were equally unwilling to contemplate that Gulf Carrier operations might generate employment in U.S. aircraft manufacturing and related industries. It is not surprising that they would like to avoid the issue, given that comments by the Aerospace Industries Association noted that Open Skies “has provided substantial economic benefits to US manufacturers and US workers.”³⁸ Emirates currently has outstanding with Boeing the single largest order for aircraft, by value, in commercial aviation history, a \$76 billion order for 150 Boeing 777X aircraft, including 300 General Electric engines. That order creates and supports 436,000 jobs in the United States, according to the U.S. Department of Commerce’s jobs multiplier for U.S. aerospace exports.³⁹ The Legacy Carriers argued in their response that “Gulf carrier expansion prevents U.S. carriers from buying new aircraft to serve more routes.” This also is nonsense. As Emirates has shown, the Legacy Carriers are not buying as many airplanes as they might because they find it profitable to underinvest in customer service, operating aging fleets in their protected U.S. market.⁴⁰ They are immensely profitable, and have plenty of cash flow to update their fleets, but find it more profitable not to do so. The Legacy Carriers have

³⁷ See, e.g., Comments of U.S. Travel Association, Dkt. No. DOT-OST-2015-0082-0695 (Jul. 23, 2015); Comments of International Coalition of Tourism Partners, Submission by ICTP on Airline Subsidies and Protectionism, Dkt. Nos. DOT-OST-2015-0082, DOC-2015-0001, DOS-2015-0016 (May 29, 2015); Letter from Ernest Wooden Jr., President and CEO, Los Angeles Tourism & Convention Board, Dkt. Nos. DOC-2015-0001-0040, DOT-OST-2015-0082-0062 (May 13 and May 26, 2015); Letter from Jonathan Zuk, Chairman of the Board, Receptive Services Association of America, to John F. Kerry, Secretary, U.S. Department of State et. al (Feb. 3, 2015).

³⁸ Letter from David F. Melcher, President & CEO, Aerospace Industries Association, to John F. Kerry, Secretary, U.S. Department of State et al., Dkt. Nos. DOC-2015-0001-1242, DOS-2015-0016-1506, DOT-OST-2015-0082-0506 (July 7, 2015).

³⁹ Press Release, Emirates, Emirates’ \$76 Billion Boeing Aircraft Order a Boost to US Aviation Industry (Nov. 18, 2013), available at <http://www.emirates.com/us/english/about/news/order-boeing.aspx>.

⁴⁰ Emirates’ Response at 185–88.

given the U.S. Government no reason whatsoever to believe that they are ready to increase investment in U.S. aircraft manufacture.

Emirates has shown that each daily round trip that it flies to the United States creates nearly 4,000 U.S. jobs.⁴¹ The Legacy Carriers continue to misstate the facts.

III. The Position Paper of Mr. William Swelbar is deeply flawed and does not demonstrate harm.

This section briefly responds to the position paper issued July 23, 2015, by William Swelbar.⁴² There is little in the paper that is new. For the most part it recycles the incorrect and frequently misleading arguments of the Legacy Carriers' White Paper. Virtually all of the points made have already been demonstrated to be wrong in Emirates' June 29 submission. Mr. Swelbar contends, for example, that Gulf Carriers have created overcapacity in flights from the United States to the Middle East because most of the passengers on those flights continue on to other destinations.⁴³ As Emirates has already shown,⁴⁴ this is not a measure of overcapacity. Any airline operating a hub will fly a much larger number of passengers to the hub than merely the passengers who will terminate their travel there. Applying this fallacious logic to Delta Air Lines, the fact that only 22% of Delta's passengers to Atlanta actually end their travel in Atlanta⁴⁵ would mean that the remaining 78% is overcapacity created by Delta.⁴⁶

⁴¹ Emirates' Response ex. 6.

⁴² William Swelbar, Position Paper: Violations of "Fair and Equal" Open Skies Agreements Threaten Large and Small American Communities and their Access to the Global Air Transportation Network (issued July 23, 2015, posted to Dkt. No. DOT-OST-2015-0082 on Aug. 3, 2015) [hereinafter Swelbar Paper]. We note that, although the Legacy Carriers' media release issuing the Swelbar paper notes his position in the InterVISTAS consulting firm and his affiliation as a Research Engineer in MIT's International Center for Air Transportation, the paper itself contains no such mention, has not been endorsed by either InterVISTAS or MIT, and appears to be a study prepared by Mr. Swelbar in his personal capacity only.

⁴³ Swelbar Paper at 2-4.

⁴⁴ Emirates' Response at 131-32.

⁴⁵ Adjusted MIDT and T-100 Data, CY 2014.

The one new argument in Mr. Swelbar's paper is his discussion of possible effects on regional airports. He contends that the presence of Gulf Carriers at major U.S. airports like Washington Dulles or Dallas-Fort Worth can reduce the traffic at regional airports like Richmond, Virginia or Austin, Texas. This would happen, in his estimation, because international passengers would tend to drive to the major airport to board a Gulf Carrier flight, rather than fly from the regional airport through an inconvenient U.S. hub.⁴⁷

This is an important issue, but Mr. Swelbar's treatment of it is deeply flawed. The issue he flags is a potential decline in service at regional airports, which could lead to the isolation of communities in those regions.⁴⁸ In the case of Richmond, Mr. Swelbar notes a decline since 2012 in the passenger traffic from Richmond to the Indian Subcontinent and the Middle East. He attributes this to Emirates' initiation of service from Dulles to Dubai in 2012, and Etihad's initiation of service to Abu Dhabi in 2013.⁴⁹

Mr. Swelbar has failed to establish that this trend has caused any harm to Richmond or to residents of the Richmond area. Passengers will seek the most efficient service to their destination. The issue for Richmond is not the specific loss of traffic serving specific destinations such as India, it is whether there is an overall loss of *flights serving the airport*, particularly flights to hub airports where passengers can connect to many destinations. By Mr. Swelbar's own admission, daily seats on U.S. network carriers serving Richmond *increased* by

⁴⁶ Other recycled arguments in Mr. Swelbar's paper that have already been rebutted include: his allegation that Emirates is subsidized, rebutted in Emirates' Response at 1-65; his allegation that Gulf Carrier competition caused the cancellation of U.S.-India flights by the Legacy Carriers, rebutted in Emirates' Response at 117-20; his allegation that Gulf Carriers have diverted traffic from Legacy Carriers, rebutted in Emirates' Response at 4-8 and 102-17; and his allegation that Emirates' Milan-New York flight has harmed the legacy carriers, rebutted in Emirates' Response at 126-30.

⁴⁷ Swelbar Paper at 9-10.

⁴⁸ Swelbar Paper at 9.

⁴⁹ Swelbar Paper at 9.

5% during this time period. This hardly shows that “Gulf Carriers threaten the air transportation grid”, to use Mr. Swelbar’s inflated rhetoric.⁵⁰ Indeed, in these times of Legacy Carrier capacity discipline, other regional airports have seen precipitous drops in Legacy Carrier service that have nothing to do with Gulf Carriers. Delta’s seat departures at Memphis, Tennessee, for example, declined 86% from 2010–2015.⁵¹ Airports like Memphis would be delighted to take Richmond’s 5% growth.

Mr. Swelbar’s exclusive focus on Gulf Carriers also ignores the far more important threat to Richmond, if there is indeed any threat at all: United Airlines operates a hub from Dulles that offers non-stop service to more than 20 international destinations, including heavily travelled routes to European capitals, Japan and China, and service to Dubai that was initiated years before that of Emirates. Far more passengers will drive to Dulles for those flights than will drive to Dulles to fly Gulf Carriers. If there is a threat posed to Richmond’s airport by international service at Dulles, that threat is posed by United Airlines.

The treatment of Austin, Texas is equally sloppy: Mr. Swelbar examined the wrong database, and reached a fundamentally unsound conclusion. Mr. Swelbar alleges a 20% decline in traffic from Austin to the Indian Subcontinent and the Middle East. But he bases this conclusion on the U.S. Department of Transportation Origin-Destination Passenger Survey (DB1B International Passenger Ticket Sample), a limited database which does not include most of the passengers on foreign flag carriers such as British Airways. British Airways entered the

⁵⁰ Swelbar Paper at 9.

⁵¹ Innovata schedule data.

Austin market with a non-stop flight to London Heathrow in March 2014, and fully 10% of the passengers who board that flight travel to India as their ultimate destination.⁵²

British Airways is the antitrust immunized partner of American Airlines. Viewed as a whole, with the full data examined, the Legacy Carriers and their Joint Venture partners *increased* their traffic to the Indian Subcontinent by 12% from 2011 to 2014, with a 3% increase in traffic to the Indian Subcontinent and the Middle East combined.⁵³ Mr. Swelbar's data, and his conclusion, are simply wrong. The omission of British Airways from Mr. Swelbar's analysis is particularly odd, because it is clear he was aware of British Airways' entry into Austin in 2014. In fact, he testified regarding that entry in a deposition that was taken on January 21 of this year.⁵⁴

⁵² Adjusted MIDT data, CY 2014.

⁵³ MIDT Data via Travelport.

⁵⁴ Transcript of William Spencer "Bill" Swelbar at 48, *City of Ontario v. City of Los Angeles, et al.* (Superior Court of Riverside County, 2015) (No. RIC 1306498) (attached as **Exhibit 1**).

Exhibit 1:

Transcript of William Swelbar



PLANET DEPOS[®]
We Make It Happen >> *Anywhere*[™]

Transcript of **WILLIAM SPENCER "BILL" SWELBAR**

Date: January 21, 2015

Case: CITY OF ONTARIO v. CITY OF LOS ANGELES, ET AL

Planet Depos, LLC
Phone: 888-433-3767
Fax: 888-503-3767
Email: transcripts@planetdepos.com
Internet: www.planetdepos.com

Court Reporting | Videography | Videoconferencing | Interpretation | Transcription

VIDEOTAPED DEPOSITION OF WILLIAM SPENCER "BILL" SWELBAR
 CONDUCTED ON WEDNESDAY, JANUARY 21, 2015

<p style="text-align: right;">1</p> <p>1 SUPERIOR COURT OF THE STATE OF CALIFORNIA</p> <p>2 COUNTY OF RIVERSIDE, RIVERSIDE JUDICIAL DISTRICT</p> <p>3 -----x</p> <p>4 CITY OF ONTARIO, a Municipal : Corporation, :</p> <p>6 Plaintiff, : Case No.</p> <p>7 v. : RIC 1306498</p> <p>8 CITY OF LOS ANGELES, a : Municipal Corporation; LOS :</p> <p>10 ANGELES WORLD AIRPORTS; LOS : ANGELES BOARD OF AIRPORT : COMMISSIONERS; AND DOES 1 :</p> <p>13 through 50, : Defendants. :</p> <p>15 -----x</p> <p>16</p> <p>17 Videotaped Deposition of WILLIAM SPENCER "BILL" SWELBAR Washington, DC Wednesday, January 21, 2015 10:46 a.m.</p> <p>22</p> <p>23 Job No.: 71495 Pages: 1 - 225 Reported By: Lee Bursten, RMR, CRR</p>	<p style="text-align: right;">3</p> <p>1 APPEARANCES</p> <p>2 ON BEHALF OF PLAINTIFF: ROY GOLDBERG, ESQUIRE STEPTOE & JOHNSON LLP 1330 Connecticut Avenue, NW Washington, DC 20036 (202) 429-3000</p> <p>8</p> <p>9 ON BEHALF OF DEFENDANT: SCOTT P. LEWIS, ESQUIRE ANDERSON & KREIGER LLP One Canal Park, Suite 200 Cambridge, Massachusetts 02141 (617) 621-6500</p> <p>16</p> <p>17 ON BEHALF OF DEFENDANT: STEPHANIE FIER, ESQUIRE KAYE SCHOLER LLP 901 Fifteenth Street, NW Washington, DC 20005 (202) 682-3500</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">2</p> <p>1 Videotaped Deposition of WILLIAM SPENCER "BILL" SWELBAR, held at the offices of:</p> <p>3</p> <p>4</p> <p>5 STEPTOE & JOHNSON LLP 1330 Connecticut Avenue, NW Washington, DC 20036 (202) 429-3000</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13 Pursuant to agreement, before Lee Bursten, Registered Merit Reporter, Certified Realtime Reporter, and Notary Public in and for the District of Columbia, who officiated in administering the oath to the witness.</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">4</p> <p>1 APPEARANCES CONTINUED</p> <p>2</p> <p>3 ALSO PRESENT:</p> <p>4 BRIAN M. CAMPBELL, Campbell-Hill Aviation Group DEAN B. HILL, Campbell-Hill Aviation Group WILL FREBURGER, Videographer</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

45

1 **No.**
2 Q But, I mean, it was that type of email
3 forum where people could talk about aviation
4 developments?
5 **A You had the ability to comment, and people**
6 **did.**
7 Q Right. Anything that you can recall of any
8 materiality regarding ASD on your Swelblog, air
9 service development?
10 **A I wrote an awful lot about various things,**
11 **whether it be labor, whether it be -- whether it be**
12 **how it is that I saw the world evolving. It was --**
13 **it was my outlet, and I wrote.**
14 Q Including on air service development
15 issues?
16 **A I wrote some on air service related issues,**
17 **yes.**
18 Q Did you go back for purposes of the
19 subpoena for today to your blog to review whether
20 anything from your blog was responsive to the
21 subpoena?
22 **A I did not.**
23 Q Is it available to you if you wanted to do
24 so, the information from your blog?
25 **A I do -- I can get to the content through my**

46

1 **provider.**
2 Q But you didn't look for any like air
3 service development articles you might have authored
4 or anything on your blog?
5 **A I did not.**
6 Q Do you have a definition of the term "air
7 service development" as it relates to airports?
8 **A Air service development to me is making the**
9 **best business case to an airline that would**
10 **potentially attract them to start service in your**
11 **particular market.**
12 Q Would you agree that air service
13 development is an important tool for an airport to
14 use to maintain and increase air service development
15 levels for that airport?
16 MR. LEWIS: Objection as to form and
17 foundation.
18 **A Could you ask me again, please?**
19 BY MR. GOLDBERG:
20 Q Yes.
21 MR. GOLDBERG: Let me ask the reporter to
22 read the question.
23 (Requested portion of record read.)
24 **A It is a tool. I don't believe that every**
25 **airport participates in a -- or has an air service**

47

1 **development program. So certainly it is a tool**
2 **that -- that yes, I mean, it's good for an airport to**
3 **be -- to be out there. But, you know, it is but one**
4 **tool.**
5 **And honestly, if you don't have a market**
6 **and you don't have a local economy, I don't have much**
7 **of a business case.**
8 BY MR. GOLDBERG:
9 Q In your experience, have you witnessed some
10 airports do ASD better than others?
11 **A There are some very good firms out there**
12 **that do the work.**
13 Q What are those firms you would consider?
14 **A Campbell-Hill would certainly be a firm**
15 **that would do a good job.**
16 Q Okay.
17 **A InterVISTAS. We are a big firm in the air**
18 **service development space. And I would say at this**
19 **point, those are probably the two most quality firms**
20 **that I'm aware of doing -- doing air service, because**
21 **the industry is shrinking.**
22 Q Why do you have such a good opinion of
23 Campbell-Hill?
24 **A I've seen their work.**
25 Q In what context specifically?

48

1 **A I mean, certainly they've had -- they had**
2 **two nice successes in Austin and San Diego.**
3 Q What do you mean by "Austin" and what do
4 you mean by "San Diego"?
5 **A Austin got British Airways service to**
6 **London. And San Diego got British Airways service to**
7 **London and JAO service to Tokyo.**
8 Q And your understanding is Campbell-Hill
9 played a role in both of those developments?
10 **A They did.**
11 Q Okay. And InterVISTAS, as far as the
12 people who you think are good at air service
13 development, were those the three in Boston you've
14 already mentioned?
15 **A Oh, honestly, I mean, we have a very good**
16 **team in Washington and Boston. I was just -- you**
17 **were asking me about LAWA.**
18 Q Sure.
19 **A And LAWA is being done in the Boston**
20 **office.**
21 Q So who is a good team in Washington for
22 InterVISTAS?
23 **A All of our analyst team is very, very**
24 **well-versed in -- in preparing the business case and**
25 **doing the forecasts and the like that are important,**

Exhibit 2:

Campbell-Hill Aviation Group, LLC,
The U.S. Legacy Carriers Have Suffered No Harm
and the Consumer Has Benefited Greatly
from Better Competition by the Gulf Carriers

**The U.S. Legacy Carriers Have Suffered No Harm and the Consumer
Has Benefited Greatly from Better Competition by the Gulf Carriers**

Rebuttal to:

**The Compass Lexecon Reports Dated
April 9, 2015 and May 13, 2015**

Prepared by:



www.av-econ.com

Brian M. Campbell, Ph.D.
Chairman
Campbell-Hill Aviation Group, LLC

Professor John Z. Imbrie, Ph.D.
University of Virginia
Department of Mathematics

Alexandria, Virginia
August 24, 2015

TABLE OF CONTENTS

Section	Title	Page
1.0	Introduction.....	1
2.0	Summary and Conclusions	4
3.0	There is No Overcapacity in the Relevant Markets	8
3.1	Load Factor Analysis.....	8
3.2	Yield Analysis	9
4.0	U.S. Gateway Markets Entered by Emirates Have Enjoyed Traffic Stimulation	12
4.1	Gulf Carrier Growth Has Not Come at the Expense of Legacy Carriers and their JV Partners.....	16
4.2	Gulf Carriers Have Grown Traffic Primarily at Their U.S. Gateways	19
5.0	The Compass Lexecon Regression Models Used to Assess Traffic Demand Are Technically Flawed	20
5.1	Introduction.....	20
5.2	Claims that Gulf Carrier Gains Have Come at the Expense of Legacy Carriers Are Not Proven.....	21
5.3	The Claim That Gulf Carriers Have Failed to Meaningfully Stimulate Demand Is Not Proven by the CL Analysis	23
5.4	There Are Fundamental Flaws in CL’s Use of “Number of Gulf Carriers Present” as an Independent Variable.....	24
5.5	The Regression Models Have Design Flaws That Invalidate Claims of Harm to Legacy Carriers and Their JV Partners.....	25
5.6	The CL Regression Models Are Not Consistent With Each Other and Some of the Results Violate Common Sense	26
6.0	Major Market Bookings By Legacy Carriers And Their JV Partners Have Not Declined When Gulf Carrier Bookings Increased.....	28
7.0	There Is No Causal Relationship Between Changes In Gulf Carrier Bookings And The Bookings Of Legacy Carriers And Their JV Partners	32
8.0	The Compass Lexecon Fare Regressions Are Technically Flawed	37
8.1	Lack of Passenger Weighting	38
8.2	Inclusion of Irrelevant Markets Skews the Statistical Results.....	39
8.3	Fundamental Flaws in the Use of “Number of Gulf Carriers” as an Independent Variable.....	40
8.4	The Compass Lexecon Fare Regressions Have Not Been Translated Into Any Measure of Harm to the Legacy Carriers	41
8.5	No Causal Link Has Been Established Between the Gulf Carrier Actions and Fare Decreases	42

TABLE OF CONTENTS

Section	Title	Page
8.6	Inconsistencies With Published Work and Between CL’s Traffic and Fare Regressions Cast Doubt on Any Conclusions Derived From Them	42
9.0	Traffic Loss and Lack of Stimulation Claims by Compass Lexecon Are Not Supported by Empirical Evidence; Relatively Larger Growth by the Gulf Carriers is Explained by Comparative Service Analysis	44
9.1	Compass Lexecon Failed to Relate Traffic Changes to Service Quality	45
9.2	Gulf Carriers Have Met Rapid Growth in Demand for Online Service; Legacy Carriers and their JV Partners Have Chosen Not to Do so.....	47
9.3	Gulf Carriers’ Online Service Provides a Competitive Fare Effect That Benefits Consumers.....	48
10.0	Other Unsubstantiated Claims by Compass Lexecon and the Legacy Carriers	50
10.1	Gulf Carrier’s Profit Objective	50
10.2	Reduction of U.S. Legacy Carrier Services Between the U.S. and India	51
10.3	Legacy Carrier Expansion Plans.....	52
10.4	Small Community Service.....	52
Appendix A	Brueckner et al. Demonstrate that Online Service Provides Greater Fare Reduction Than ATI Interlocking Agreements	
Appendix B	Dresner et al. Found the Effects of Gulf Carrier Competition To Be Small	
Exhibits		

The U.S. Legacy Carriers Have Suffered No Harm and the Consumer Has Benefited Greatly from Better Competition by the Gulf Carriers¹

1.0 Introduction

Campbell-Hill Aviation Group, LLC (“Campbell-Hill”) was retained by Emirates Airline (“Emirates”) to review and assess the reasonableness of the methodology and findings in two reports issued by Compass Lexecon (“CL”). Initially, Campbell-Hill knew only about the May 13, 2015 report (the “CL May Report”).² Then, on June 18 Campbell-Hill learned that CL had produced an earlier report dated April 9, 2015 (the “CL April Report”).³ This document surfaced as a reference item in the Legacy Carriers’ Technical & Clarification Questions on the Gulf Subsidies Report (the “Q&A Report”). Approximately half of the CL April Report was expunged from the CL May Report, including all of the competitive fares analysis and the fare regression models. In addition, the assertion that Gulf Carriers have created conditions of overcapacity in the relevant markets was eliminated or substantially de-emphasized. For both the April and May reports, however, Campbell-Hill finds that there are fundamental conceptual and theoretical problems with the design of all the CL models that render their conclusions invalid and not useful for the current inquiry. Moreover, CL makes several unsubstantiated assertions that must be addressed.

Compass Lexecon was hired by the Legacy Carriers to demonstrate that the Gulf Carriers, and Emirates in particular: (1) have created overcapacity in the relevant markets; (2) have not “meaningfully”⁴ stimulated traffic in the relevant markets; (3) have caused the Legacy Carriers and their JV Partners to suffer traffic and market share losses due to increased competition from the Gulf Carriers; and (4) have caused, by their presence in markets, Legacy Carrier/JV Partner fares to decline (the “price suppression” effect in the words of the Legacy

¹ This report was prepared by Dr. Brian M. Campbell, Chairman of the Campbell-Hill Aviation Group, LLC (“Campbell-Hill”) and Dr. John Z. Imbrie, Professor of Mathematics, University of Virginia. Brief resumes of Drs. Campbell and Imbrie are attached as Exhibit 12.

² See Darin Lee, Ph.D. and Eric Amel, Ph.D., Assessing the Impact of Subsidized Gulf Carrier Expansion on U.S. – International passenger traffic, May 13, 2015. This report is hereinafter referred to as the “CL May Report.”

³ See Darin Lee, Ph.D. and Eric Amel, Ph.D., Assessing the Impact of Subsidized Gulf Carrier Expansion on U.S. – International Airfares and Passenger Traffic, April 9, 2015. This report is hereinafter referred to as the “CL April Report.”

⁴ CL does not explain or define the term “meaningfully” as it has used it in several places in its reports.

Carriers – Q&A Report) and force them out of a few markets. The CL analysis proceeds at two levels: (1) time series and cross-sectional views of seat-capacity and bookings for certain defined markets⁵ and (2) an econometric analysis of certain city-pairs.⁶ Both efforts by CL rely upon unsound analytical methodologies. Neither should be relied upon to shed light on the issues before the U.S. Government.

As an initial proposition it must be understood that neither the Legacy Carriers' White Paper nor the CL reports make any allegations or showings that the Gulf Carriers have operated at low load factors. There are no allegations of predatory pricing or capacity dumping. While CL alleges overcapacity in city-pairs caused by the Gulf Carriers (CL April Report, page 2 and elsewhere), it never shows a single load factor for any market. Nor does it explain or define what "overcapacity" means in its reports. Furthermore, the CL reports produce no estimates of traffic or revenue loss by the Legacy Carriers, net of the passengers they transferred to their JV or other code-share alliance partners.⁷ Even the CL econometric analyses stop short of showing a number of passengers and/or revenue lost by the Legacy Carriers that was not transferred to a JV or code-share partner. This is true for every O&D market at issue and every aggregation of markets. CL prefers to talk in terms of loss in Legacy Carrier market shares. This is irrelevant to a diversion/stimulation analysis. If a Legacy Carrier carries more traffic in a growing market, but its share (percentage) declines, that is the result of many factors, including competition by other airlines and the Legacy Carrier's frequency/capacity decisions. It is not diversion.

One of the fundamental flaws in the CL analysis is the assumption that incumbent carriers, as indirect as their service might be, are entitled to ownership of an historic market share, including normal growth in a market. This assumption is specious; it permeates all of CL's traffic regression analyses, is simply a wrong predicate for the CL models, and is blatantly inconsistent with U.S. Open Skies policy. Even during the most highly regulated era in air

⁵ CL May Report, Section 2.

⁶ CL May Report, Section 3 and CL April Report, Section 3 and Appendix B.

⁷ Other code-share alliance partners are other airlines that are members of the same alliance but do not enjoy anti-trust immunity with the U.S. Legacy Carrier. Note that the failure by CL to quantify any loss of passengers or revenue is consistent with the recent statement by Glenn Hauenstein, Delta Air Line's EVP and Chief Revenue Officer, who responded "we are not" when asked on July 15, 2015, whether he was "seeing some displacement of that [U.S. into India, Middle East, Africa] traffic to competitors such as Emirates or Etihad or Qatar." See Delta Air Lines' (DAL) CEO Richard Anderson on Q2 2015 Results - Earnings Call Transcript, Jul. 15, 2015 4:47 PM ET by SA Transcripts.

transportation, the Civil Aeronautics Board did not consider a new entrant's traffic to be diversionary if it included some or all of the growth in a market. This was well known at the time as the "growth offset theory", in which the parties to a CAB route case offset normal growth traffic from any estimates of forecast diversion.⁸

Emirates' analyses show clearly that markets have grown significantly after its entry, and the Legacy Carriers have suffered no harm. This conclusion is clearly demonstrated in later sections of this report. Passenger losses in specific markets have been the result of the Legacy Carriers' strategic decisions either not to invest and compete with like products or, alternatively, to transfer traffic to their JV Partners. After all, under "metal neutral" agreements with their joint venture partners approved by the U.S. Government's grants of antitrust immunity, the Legacy Carriers do not need to make the investments. It does not matter to them who carries the passengers (e.g., Delta or Air France). On this issue Campbell-Hill and CL are in agreement.

The global Joint Venture alliance model does not always succeed against direct online service by a high quality competitor offering sufficient frequency, consistency and uniformity of service with modern aircraft and low total elapsed times. The Legacy Carriers' joint venture model entices them to minimize investment to bolster profits, but it runs the risk of sacrificing market participation and customer service. Instead of one-stop online service, the Legacy Carriers can and do attempt to channel their customers onto multiple-stop, multi-carrier itineraries. That consumers prefer an alternative is amply demonstrated by non-Gulf carrier networks as well. Icelandair Airlines, with its hub in Reykjavik, is one example of a carrier that is succeeding very well in competing for U.S. O&D sixth freedom traffic by offering their own online services.

⁸ *Frontier Airlines v. Civil Aeronautics Board*, 439 F.2d 634 (D.C. Cir. 1971).

2.0 Summary and Conclusions

The Compass Lexecon reports attempt to demonstrate four basic propositions: (1) Gulf Carriers have created overcapacity in the relevant markets, (2) the Gulf Carriers have not “meaningfully” stimulated the market, (3) Gulf carrier gains have come at the expense of Legacy Carriers and their JV Partners, and (4) the presence of Gulf Carriers suppresses fares of the Legacy Carriers and their JV Partners. None of these propositions is empirically demonstrated by sound analysis. In fact, the opposite conclusions are true, namely: (1) there is no empirical evidence of overcapacity in the relevant markets, (2) the Gulf Carriers have stimulated market growth over the past six years, (3) the Gulf carriers do not divert traffic from the Legacy Carriers and their JV Partners; and (4) modest fare reductions due to competition are a significant consumer benefit and are the expected and desired outcome from all U.S. Open Skies agreements. Several specific findings from Campbell-Hill’s evaluation of the CL reports and its independent analysis of the MIDT data are critical:

1. Compass Lexecon makes a fundamental and flawed assumption that the Legacy Carriers and their JV Partners are entitled to maintain their historic market share, including a share of normal market growth. Thus, they label it “diversion” if the Gulf Carriers and Legacy Carriers both grow, but the Gulf Carriers grow by a greater percentage. Moreover, the CL regression models suffer from problems of collinearity between independent variables, which causes the regression coefficients to be untrustworthy. There are other infirmities in their models as well.
2. Fundamental faults in the traffic regression model render it unable to substantiate the claim that the Gulf carriers have not stimulated various markets. Moreover, as shown by Campbell-Hill’s analysis the empirical evidence proves exactly the opposite.
3. The actual MIDT bookings data do not support claims that Gulf carrier growth has come at the expense of Legacy Carriers and their JV Partners. The insignificant Legacy Carrier traffic decline in the sixth freedom markets at issue⁹ has been more than offset by increases recorded by their JV Partners. Over the past six years the U.S. Legacy Carriers’ annual bookings in these markets declined by 124,000 while the JV Partners’ annual bookings increased by 389,000; a ratio of 3 to 1 (Chart 3).

⁹ U.S. – India Subcontinent, plus U.S. – ASEAN, plus U.S. – Africa. For purposes of this discussion the Middle East market is excluded because the Gulf carriers have a natural service and home region advantage.

4. Campbell-Hill performed its own bookings regression analysis, which is simpler, more direct, and transparent. Campbell-Hill examined the relationship, for each of the last six years, between (1) Legacy Carriers plus JV Partners' bookings and (2) Gulf Carrier bookings. Straight-line regression equations are calibrated for these two variables using MIDT data for the past six years. Separate equations were calibrated for each of the four market regions and they were calibrated using both quarterly and annual data. Regressions were also derived using annual year-to-year change in bookings as the data points. All sets of regressions¹⁰ yield the same conclusion; namely, **that Legacy Carriers and their JV Partners have experienced no loss of bookings at the regional level due to the operations of the Gulf Carriers.** In fact, CL fails to identify a single sixth freedom market (city-pair) where traffic has been lost to a Gulf Carrier.
5. The Compass Lexecon fare model¹¹ alleges that the presence of a Gulf carrier in a U.S. international city-pair market “depresses” Legacy Carrier fares by 4.3%. While no confidence can be placed in this regression model result, if it is accurate, it is modest and it is both a consumer benefit and a benefit to the U.S. economy. Competition from superior services operated more efficiently is supposed to produce lower prices.¹²
6. The CL fare model suffers from technical infirmities so severe that it has not produced meaningful and trustworthy results. For one, it appears that CL does not weight the markets by traffic size, so over 50% of the observations (markets) in the regression have 10 or fewer passengers per year, yet they get equal weighting with markets of 10,000 passengers or more. Second, 78% of all the markets in the CL fare regression are markets behind the U.S. gateway where the Gulf Carriers cannot

¹⁰ See Charts 4-12 and Appendix A.

¹¹ See Technical & Clarification Questions on the Gulf Subsidies Report, prepared by the Legacy Carriers and posted in the Department of State docket on June 16, 2015. The Compass Lexecon “fares” model appears at pages 24-27. Campbell-Hill does not endorse this model or its findings.

¹² As noted in the 1995 Statement of United States International Air Transportation Policy, a key U.S. objective is to “[i]ncrease the variety of price and service options available to consumers,” which includes the principle that “[c]arriers' ability to set prices should also be unrestricted to create maximum incentives for cost efficiencies and to provide consumers with the benefits of price competition and lower fares.” Statement of United States International Air Transportation Policy, 60 Fed.Reg. 21,841, at 21,844.

- compete effectively. Third, the CL regression includes an enormous number of irrelevant markets where the Gulf Carriers do not have a significant presence (e.g., U.S.-Europe¹³ and U.S.-Japan/Korea/China and many other markets in the Pacific). Fourth, for traffic and fare modeling, the use of a 3% market share as an arbitrary qualifier makes no sense.
7. Compass Lexecon has not demonstrated any causal linkage between Gulf Carrier pricing actions and fare decreases. While CL attempts to rebut and discredit the independent objective study¹⁴ by Dresner et al., that study is, in fact, highly relevant to the issues at hand (see Appendix B herein).
 8. Compass Lexecon considered neither service effects nor fares in its traffic regressions. Yet quality and quantity of service and fares have long been recognized as important variables in traffic estimating models. Gulf Carrier service explains a lot about their increase in bookings. Indeed, CL's own analysis (along with that of the antecedent paper Brueckner et al. – see Appendix A herein) clearly demonstrates that online service captures more market share than ATI interline services, other things being equal. It is a superior service preferred by passengers.
 9. The Legacy Carriers and their JV Partners have not increased service or seat capacity in many of the markets at issue (e.g., U.S.-India Subcontinent). In fact, they have reduced capacity in some markets and re-deployed their aircraft to high-yield markets, especially U.S.-Europe. It is thus no surprise that most of the traffic growth has been on routings via the Gulf hubs. The Legacies and their JV and Alliance Partners have been unresponsive to the needs and wants of the fast growing markets at issue.
 10. The Gulf Carriers are providing significant and unique benefits to consumers. The Gulf Carriers provide the vast majority of all online service in these markets and they do it with high quality of services – in the air and on the ground. The Gulf Carriers' schedules provide more consumer choice, and their competitive presence may produce fare savings for consumers.

¹³ Except for New York (JFK) – Milan, which represents 1.3% of total U.S. – Europe passenger flow (DOT T-100 for CY 2014).

¹⁴ This study was not funded by United Airlines or any other party to this inquiry.

11. The credibility of the CL reports suffers as well from several additional unsubstantiated claims:

- (a) “Profitability is not the primary objective of the Gulf Carriers.” Where is the evidence? Certainly there is none concerning Emirates, an airline that has earned a profit for each of the past 27 years, something none of the three Legacy Carriers can come close to claiming.
- (b) No evidence is presented to prove that capacity growth by Gulf Carriers has resulted in the elimination of any nonstop service to India. There are a host of other possible explanations for the actions taken by members of an ATI arrangement. And, indeed, submissions in this dispute have shown that Delta Air Lines has shifted its explanation from one reason to another and then to yet another.¹⁵
- (c) There is equally no evidence from CL or the Legacy Carriers to support the claim that Gulf Carrier expansion has undermined the U.S. carriers’ ability to expand nonstop service in relevant markets. They present no examples of expansion plans cancelled due to Gulf Carrier competition.
- (d) CL offers no proof that Gulf Carrier services jeopardize U.S. domestic service between the gateway hubs and smaller interior markets, and reaches this conclusion by relying on the nonsensical results of its flawed regression models. In fact, the opposite is true.

In the end, CL never translates its regression model findings into estimates of diverted passengers or diverted revenue. Presumably, this is because there are none. In any event, the CL regression analysis is sufficiently flawed in design and execution that its results cannot be trusted and they should not be used to inform policy decisions in this proceeding.

¹⁵ Emirates June 29 Report at pages 117-120.

3.0 There is No Overcapacity in the Relevant Markets

In the CL April Report the authors go to considerable length to assert that the Gulf Carriers have caused overcapacity in the relevant markets. CL provides no proof. CL simply makes the assertion without factual evidence. The CL reports contain not a single measure of load factor, capacity utilization, or comparative fare/yield analysis. In fact, load factors for the Legacy Carriers and Emirates are extremely high by historical standards, and they are almost identical. Moreover, the Legacy Carriers' greatest increase in international yields has been in the Atlantic Division, precisely where one would most expect a Gulf Carrier impact, if there is any impact at all.

3.1 Load Factor Analysis

Exhibit 1 shows that the Legacy Carriers' Atlantic Division load factors averaged 83.2% in 2013 and 81.2% in 2014. In both years the Atlantic load factors were close to their load factors in the Pacific and Latin America divisions. Yet there is little or no competition from the Gulf Carriers in the Pacific and Latin America regions.

Exhibit 2 shows the load factors by Legacy Carrier for all nonstop transatlantic segments to and from the hubs of their JV Partners. Delta's transatlantic load factors to/from its JV Partners' European hubs averaged 84.3% in 2013 and 83.8% in 2014. For United the comparable transatlantic load factors averaged 82.0% and 81.8% in 2013 and 2014 respectively. American's load factors on transatlantic segments to/from its JV Partners' hubs were 81.4% and 76.6% in 2013 and 2014 respectively.¹⁶

Correspondingly, Emirates' load factors are equally high, as presented in Exhibit 4. For 2013 and 2014, Emirates' U.S. – Dubai load factors averaged 83% and 82%, respectively. Between Dubai and the India Subcontinent its load factors averaged 80% in both years. There is not a shred of evidence that either Emirates or the Legacy Carriers are operating at low load factors. In fact, the 2013 and 2014 load factors of Emirates and the Legacy Carriers were far above traditional norms which might indicate that consumer demand is for even more capacity. It might be argued that high load factors can be maintained in the face of declining seat capacity. In theory this is true. However, it is not the case in the hub-to-hub transatlantic segments

¹⁶ American's average load factor decline appears to be caused by the London markets. Some evidence of the same decline is evident from Delta's London markets (Exhibit 3).

operated by the Legacy Carriers and their JV Partners. From 2010 to 2014 the Legacy Carriers increased seat capacity between their U.S. hubs and the European hubs of their JV Partners by 18.6%. In the most recent year (2013 to 2014) the increase was 3.3%. When the nonstop schedules of the Legacy Carriers and their JV Partners are combined, the increase in total nonstop seats (hub-to-hub) was 15.1% from 2010 to 2014 (Exhibit 5, page 1). Seats operated by individual segment are presented by year in Exhibit 6.

It is noteworthy that Delta Air Lines increased its own nonstop seat capacity between its U.S. hubs and its JV Partner hubs (Amsterdam, Paris, Rome, Milan and London Heathrow) by 30.4% between 2010 and 2014 (Exhibit 5). In the case of JFK – Milan Delta's nonstop seats increased by 24.7% from 2010 to 2014, and by 10.2% from 2013 to 2014 (Exhibit 6, page 1).

Contrary to Compass Lexecon's inaccurate statement on page 2 of the CL April Report, Delta's 88.3% load factor on the New York (JFK) – Milan route in 2014 hardly supports the claim that there is a "glut of subsidized capacity" on this segment. Furthermore, even after the high oligopoly fares declined somewhat in the New York – Milan local market (CL April Report, Exhibit 7), Delta added 10.2% more nonstop seats in 2014 (Exhibit 6, page 1 herein),¹⁷ so according to the Compass Lexecon theory of airline finance, Delta has been earning profits well above its cost of capital (WAAC) on this route. The Legacy Carriers' arguments are without merit.

Most airlines zealously guard data pertaining to yields on specific routes. To Campbell-Hill's astonishment it appears that Compass Lexecon has received approval to publish the local yields earned by U.S. flag carriers in individual New York – Europe markets (see CL April Report, Exhibit 8). This array of yields is biased and selective because well-versed aviation experts know that there are plenty of major U.S. – Europe O&D markets with U.S. carrier yields below the New York – Milan yield.

3.2 Yield Analysis

If Emirates was motivated to enter markets in a predatory fashion by slashing fares by 40%, 50%, or 60% to gain market position, then load factors might be artificially inflated if incumbent carriers matched them. But, this is not the case. In fact, Compass Lexecon's own

¹⁷ Delta and its JV Partners (combined) added 48,200, or 15.0% more seats in 2014 (Exhibit 6, page 4).

fare regression model shows that Emirates' presence in a relevant market caused Legacy Carrier/JV Partner fares to decline by a modest 4.3%.¹⁸ Such fare reductions are a normal, predictable, and desirable result of new competitive entry: precisely the outcome that U.S. aviation policy-makers expected from Open Skies.

Campbell-Hill has examined Legacy Carrier yield trends by international division from 2010 through 2014 (Exhibit 7). Several observations are important to the current inquiry:

1. Since 2010 the Legacy Carriers have each recorded an increase in the average Atlantic yield of 15.0% (Delta) to 16.8% (United) (Exhibit 8). The composite growth rate for the three carriers combined was 15.8% between 2010 and 2014.
2. The Legacy Carriers' Atlantic Divisions have produced the strongest growth in yields from 2010 to 2014 (Exhibit 9). Average yield actually declined from 2013 to 2014 in the Pacific and Latin America divisions, where there is little or no competition from the Gulf Carriers, yet the Legacies' Atlantic yield continued to increase unabated. From 2013 to 2014 the Legacy Carriers' Atlantic yield increase was 3.2% (Exhibit 7).

Compass Lexecon has utilized confidential DOT O&D Survey data in many of its regression models, and in all of its models dealing with fare effects. This data is not available to foreign carriers such as Emirates. With all this fare data at hand, Compass Lexecon is completely silent with respect to trends in fares/yields in the relevant markets. Why? The logical assumption is that those trends were positive and thus undercut any claims of harm caused by price suppression. Certainly if Emirates had engaged in predatory pricing, the White Paper and the CL reports would be replete with factual evidence. But none is presented. So the only conclusion that makes sense is that Emirates has not created overcapacity in these markets, nor has it engaged in predatory or "artificially low" pricing. This conclusion is fully in line with the failure of the Legacy Carriers to assert a claim under the pricing article of the U.S.-UAE Open Skies Agreement.

The Legacy Carriers' preoccupation with the overcapacity argument in the CL April Report was virtually eliminated in both substance and tone in the CL May Report. It is not clear whether the deletion is related to the U.S. Department of Justice investigation of Legacy Carrier

¹⁸ In Section 5.0 and 9.0 below Campbell-Hill discusses some of the significant flaws in the CL model.

statements about capacity discipline. With load factors of 80% for both the Legacy Carriers and Emirates, surely the Legacy Carriers cannot be arguing that Emirates has no capacity discipline.

The next four sections of this report evaluate the CL claims that the Gulf Carriers have not meaningfully stimulated additional traffic to/from the U.S. and that Gulf Carrier gains have come at the expense of the Legacy Carriers and their JV Partners. This is the central thrust of the CL May Report. The claims of price suppression—dropped from the CL May Report, but featured prominently in the CL April Report—are evaluated in Section 8.0.

4.0 The U.S. Gateway Markets Entered by Emirates Have Enjoyed Traffic Stimulation

To put the Legacy Carriers' complaints in context, it is useful to note that Delta, United, and American, along with their JV Partners, carry 12 times as many transatlantic passengers as all three Gulf Carriers, which have just 6% of the market combined (Figure III-6).¹⁹

Total bookings in the U.S.-India Subcontinent markets increased by 46%, or by 1,314,500 annual bookings, from 2009 to 2014 (Figure III-23). Eighty-one percent (81%) of the increase was produced by the Gulf Carriers. The Legacy Carriers and their JV Partners accounted for 15% of the increase, or 193,408 bookings.

In the U.S. – ASEAN markets, total MIDT bookings increased by 31% from 2009 to 2014 (Figure III-25). These markets are dominated by “other carriers.” The Legacy Carriers and their JV Partners recorded a 17% increase in bookings (Figure III-26). The Gulf Carriers' bookings grew at a higher rate, but even with this increase their bookings account for less than 5% of the market and are dwarfed by the bookings on Legacy Carriers and their JV Partners, not to mention by those of “other carriers.”

Since 2009 the Legacy Carriers plus their JV Partners and the Gulf Carriers have increased their bookings in the U.S. – Africa market, even though the Legacy Carriers have relied predominantly on their JV Partners (Figure III-28). The Gulf Carriers have increased their bookings but their share of the total market is small compared to the total for the Legacy Carriers plus JV Partners.

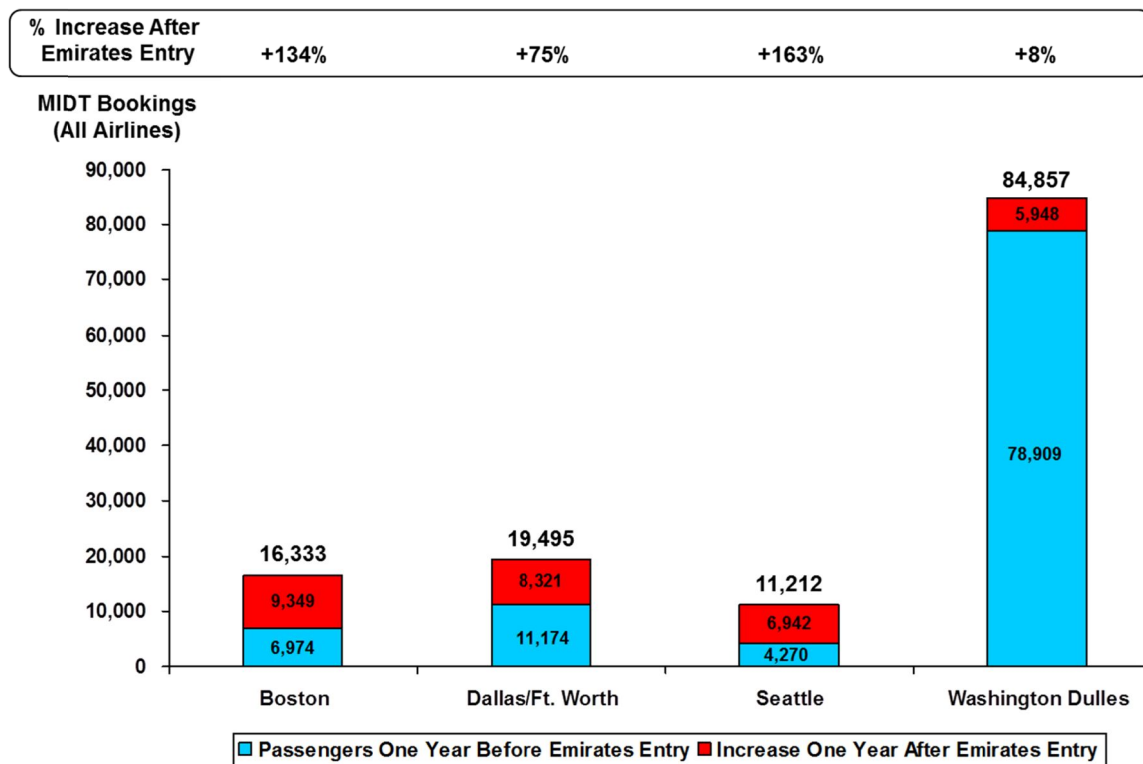
Some specific observations about the CL analysis are in order. First, Emirates provides service from nine U.S. gateways to its hub in Dubai and sixth freedom service to scores of destinations beyond. Compared to global metropolises such as New York, London, Tokyo, and Beijing, Dubai has a small population and, accordingly, a relatively small O&D air travel market. It is served today by 77 airlines (Figure I-3), a number of which provided sixth freedom service to the United States over European hubs since well before Emirates first flew to the New York in 1994. The fact that Dubai O&D bookings have grown more slowly than Emirates' O&D bookings to sixth freedom markets in India, Africa, and Southeast Asia is neither surprising nor particularly relevant—unless one seeks to turn back the clock to the pre-Open Skies era when

¹⁹ “Figures” refer to the numbered figures in Emirates report titled, Emirates' response to claims raised about state-owned airlines in Qatar and the United Arab Emirates, June 29, 2015 (hereinafter referred to as the “Emirates June 29 Report.”).

only third and fourth freedom traffic qualified as fully “legitimate”. Nevertheless, Emirates has stimulated the U.S. markets it serves to/from DXB (Chart 1). Stimulation in this analysis is measured as the change in total market traffic between the year before entry and the year after entry. Beyond one year in the market a new entrant is treated as an incumbent for purposes of assessing diversion.

Chart 1

Traffic Stimulation by Emirates Between U.S. Gateway Cities and Dubai
 (Measured From the Year Before to the Year After Emirates Entry)



Note: All numbers include only markets with Emirates online service but include all airlines in those markets.
 Source: MIDT bookings analysis from Emirates.

CL May Report Exhibit 2 obscures the proper year-to-year booking comparisons in Emirates’ markets. In fact, starting the time series in 2008 and ending in 2014 masks the true stimulation in the New York, Houston, Los Angeles, San Francisco, and Chicago markets because these markets were entered in periods where a 2008-2014 time series does not include a full year period prior to nonstop service and a full year period after nonstop service commenced.

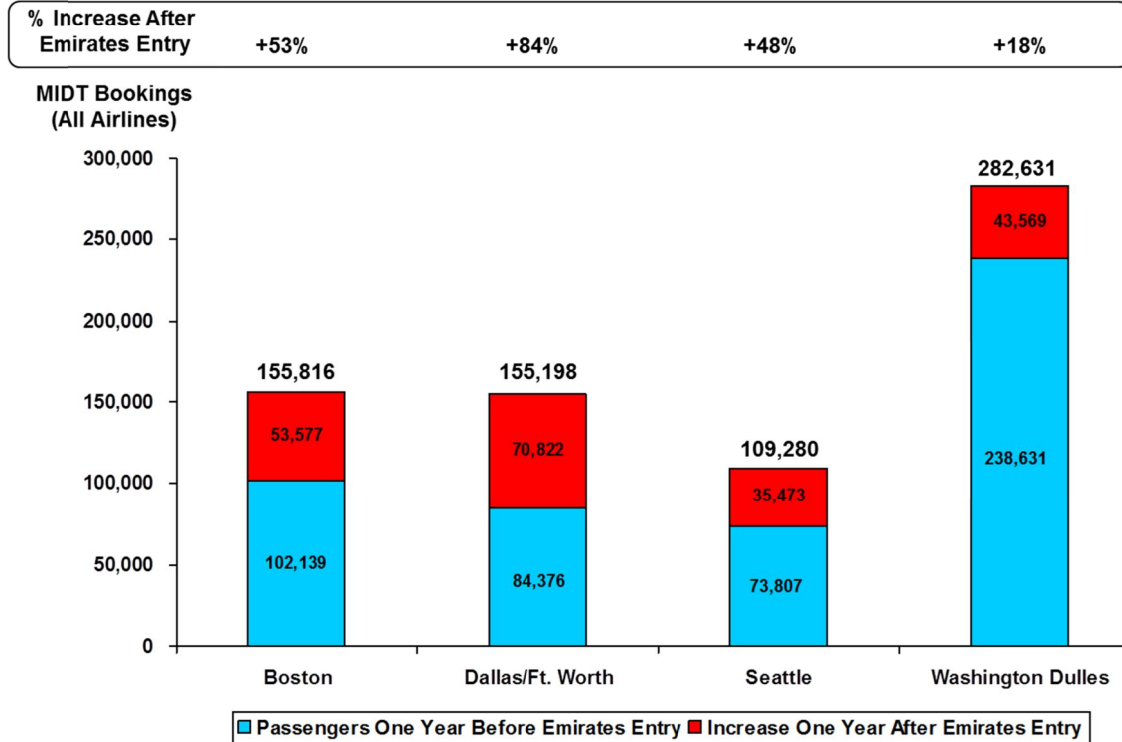
For example, Emirates' Houston service began in December 2007. Therefore, to see the effect of Emirates on this market, one would need to know the traffic levels before Emirates began nonstop service. Nevertheless, CL shows that in all markets, except Houston, bookings have increased since 2008. A good case can be made to exclude 2008 due to the severity of the recessionary declines from 2008 to 2009. If 2008 is excluded, the growth trends are stronger.

Exhibit 3 in the CL May Report is equally obscure. It compares hub seat capacity with bookings in three small markets among the hundreds of O&D markets served through the U.S. gateways and Middle Eastern hubs.

The most significant market considered in this inquiry is the U.S. – India Subcontinent market. (See, for example, CL May Report, Exhibit 4.) Market stimulation measured a year after Emirates' entry is clearly evident in Chart 2 below. In the case of Boston, Dallas, Seattle, and Washington the bookings in the first year of Emirates' service were respectively 52%, 84%, 48%, and 18% higher than they were the year prior to entry (Chart 2).

Chart 2

**Traffic Stimulation by Emirates Between
U.S. Gateway Cities and India Subcontinent**
(Measured From the Year Before to the Year After Emirates Entry)



Note: All numbers include only markets with Emirates online service but include all airlines in those markets.
Source: MIDT bookings analysis from Emirates.

It is important to point out that neither the White Paper nor the CL May Report includes the rest of the Legacy Carriers’ alliance members.²⁰ These papers include only their ATI joint venture partners and exclude all of the other code-share alliance partners with whom they market jointly. Especially with respect to the U.S. – ASEAN market, inclusion of Korean, mainland Chinese, Taiwanese, Hong Kong, and other alliance partners would present a much different picture than the CL findings: the Legacy Carriers’ alliance partnership traffic and market shares would be significantly greater. This would also impact the presentation in Exhibit 5 of the CL May Report.

Contrary to CL’s simplistic assertion, higher growth in Asian markets cannot be correlated to a lack of stimulation by the Gulf Carriers. India and several other countries in the

²⁰ There are many airlines that are members of one of the “alliances” but are not JV Partners with a U.S. Legacy Carrier because they do not operate with ATI. However, they code-share with their Legacy Carrier counterpart and collaborate with them in other ways.

India Subcontinent have had lower rates of economic growth than China in recent years. The growth in travel to/from China has been driven largely by the entry of Chinese carriers (some of which are in alliances with Legacy Carriers) as well as a significant increase in nonstop seat capacity by U.S. airlines. Market growth is also attributable to U.S. economic and political policies – such as the inclusion of South Korea in the visa waiver program effective in 2008. China granted the U.S. Approved Destination Status (ADS) in 2008, which allowed citizens of mainland China to take pleasure trips to the United States on group package tours. In addition, although the United States has secured Open Skies agreements with India and other countries in the Subcontinent, the traffic rights available to third country airlines, such as Emirates, are much more limited and cap the potential for market growth.

4.1 Gulf Carrier Growth Has Not Come at the Expense of Legacy Carriers and Their JV Partners²¹

As explained in the introduction, Legacy Carriers and their JV Partners should be considered single integrated units because antitrust immunized, metal neutral joint venture carriers are required to be indifferent to which one carries the passenger. Nevertheless, it is useful to examine how bookings have shifted between Legacy Carriers and their JV Partners over the last five years. The CL report makes specific claims of harm accruing to Legacy Carriers in particular. Therefore, it is important to see whether any declines in Legacy Carrier bookings are due to a transfer of business to their JV Partners. The changes in bookings from the 12 months ended Q1, 2011 to 12 months ended Q1, 2015 are tabulated in Chart 3, Part B, and show a significant transfer of passengers to JV Partners.

²¹ The bookings analyses from Section 4.1 to the end of this report are based on MIDT data purchased by Campbell-Hill from Travelport. These data differ somewhat from the MIDT data used by Emirates.

Chart 3

The Gulf Carriers Have Not Diverted Traffic From the Legacy Carriers and Their JV Partners (Net)

MIDT Bookings By Market Region
(Thousands of Bookings)

	U.S. To/From					
	India Subcontinent	ASEAN	Africa	Subtotal ^{1/}	Middle East	Total
A. All Carrier Groups						
<u>12 mos. Ended Q1, 2010</u>						
Legacy Carriers/ JV Partners	1,393	1,172	1,290	3,855	1,408	5,263
Gulf Carriers	758	29	46	833	397	1,230
All Other	1,321	2,554	416	4,291	558	4,849
Total	3,472	3,754	1,753	8,979	2,363	11,342
<u>12 mos. Ended Q1, 2015</u>						
Legacy Carriers/ JV Partners	1,512	1,176	1,433	4,121	1,209	5,330
Gulf Carriers	1,737	200	183	2,120	958	3,079
All Other	1,082	2,734	626	4,442	646	5,088
Total	4,331	4,109	2,243	10,683	2,814	13,497
<u>Five Year Growth</u>						
Legacy Carriers/ JV Partners	119	4	143	266	-199	67
Gulf Carriers	980	171	137	1,288	561	1,849
All Other	-239	180	209	150	88	239
Total	859	355	490	1,704	451	2,154
B. Increase/Decrease in Bookings: Legacy Carriers vs. JV Partners						
<u>12 mos. Ended Q1, 2010</u>						
Legacy Carriers	676	991	709	2,376	804	3,180
JV Partners	717	181	582	1,480	603	2,083
Total	1,393	1,172	1,290	3,855	1,408	5,263
<u>12 mos. Ended Q1, 2015</u>						
Legacy Carriers	601	917	734	2,252	636	2,888
JV Partners	911	259	700	1,870	573	2,442
Total	1,512	1,176	1,433	4,121	1,209	5,330
<u>Five Year Growth</u>						
Legacy Carriers	-75	-74	25	-124	-168	-292
JV Partners	194	77	118	389	-30	359
Total	119	4	143	266	-199	67
C. Growth in Gulf Carrier U.S. Gateway and Behind U.S. Gateway Bookings^{2/}						
<u>12 mos. Ended Q1, 2010-12 mos. Ended Q1, 2015 Growth:</u>						
• Gulf Carrier U.S. Gateways Bookings: Legacy/JV Partners	98	-7	74	165	-81	83
• Gulf Carrier U.S. Gateways Bookings: Gulf Carriers	790	137	108	1,035	439	1,474
• Behind Gulf Carrier U.S. Gateways: Legacy/JV Partners	-30	12	70	52	-103	-52
• Behind Gulf Carrier U.S. Gateways: Gulf Carriers	189	34	29	252	122	374

1/ Total of U.S. – India Subcontinent/ASEAN/Africa.

2/ This analysis considers only the 11 U.S. gateways and their connecting markets behind.

Source: MIDT Bookings data purchased from Travelport.

Chart 3, Parts A and B, examine the pattern of market growth over the five-year period from Q1, 2010 through Q1, 2015 in four major markets: U.S.-India Subcontinent, U.S.-ASEAN, U.S.-Africa and U.S.-Middle East. For each year, figures are given in Chart 3 for the 12 months ending with the first quarter (based on MIDT data). Due to the natural service and home region advantages of the Gulf Carriers in the U.S.-Middle East market, it is useful to examine traffic trends in this market separately.

For the U.S.-India Subcontinent, substantial Gulf Carrier growth over the five-year period (980,000 bookings) did not prevent a large increase in bookings by Legacy Carriers and their JV Partners of 119,000 over the same period. Legacy Carriers bookings declined by 75,000 over the last five years, even as JV Partner bookings rose by 194,000. In the U.S.-ASEAN market, Gulf Carrier growth of 171,000 bookings has been accompanied by modest growth in bookings by Legacy Carriers and their JV Partners (4,000). A decline of 74,000 bookings by Legacy Carriers was compensated by an increase of 77,000 in bookings by JV Partners. Nevertheless, the changes have been modest relative to the total size of the U.S.-ASEAN market (4,109,000 in 2015), where Asian carriers have a dominant share. In the U.S. - Africa market, comparable growth of approximately 140,000 bookings has occurred for both sets of carriers. For the three regional markets in total, the Legacy Carriers' third and fourth freedom bookings declined by 124,000 while their JV Partners' bookings increased by 389,000, or by 3 to 1 (Chart 3, Part B).

In the Middle East market, substantial growth by Gulf Carriers has been accompanied by a decline of 199,000 in bookings by Legacy Carriers and their JV Partners. Yet it is natural that superior direct or frequent 1-stop services by the Gulf Carriers in their home region would yield superior traffic results.

In conclusion, the data do not support claims that Gulf Carrier growth has come at the expense of Legacy Carriers and their JV Partners. The only exception has been in the U.S.-Middle East market where Gulf Carriers have a significant nonstop and online connecting service advantage.

4.2 Gulf Carriers Have Grown Traffic Primarily at Their U.S. Gateways, Much Less So at Behind-Gateway Points

Part C of Chart 3 shows changes from 2011 to 2015 (YE Q1) for bookings involving Gulf Carriers' U.S. gateways. These are the 11 U.S. gateway cities used by CL in its analysis: New York City (EWR, JFK, LGA), Chicago (ORD, MDW), Houston (IAH, HOU), Los Angeles (LAX, LGB, BUR), Washington D.C. (IAD, DCA, BWI), Seattle (SEA), Dallas/Ft. Worth (DFW, DAL), San Francisco (SFO, OAK), Boston (BOS), Philadelphia (PHL), and Miami (MIA, FLL). Itineraries whose origin or destination is at one of these gateways are designated "Gulf Carrier U.S. Gateways" traffic. Itineraries behind these gateways are designated "Behind Gulf Carrier U.S. Gateways" traffic. (See Exhibit 7 of the CL May Report.)

The numbers on Chart 3 (Part C) demonstrate that approximately 80% of Gulf Carrier growth has occurred with traffic originating or terminating in one of their U.S. gateways. This finding is not at all surprising, insofar as behind passengers must change carriers at the gateway, often involving a change of terminal buildings and re-screening.²² This finding, however, casts serious doubt on CL's analysis, which claims substantial harm has come to Legacy Carriers and their JV Partners in **behind** U.S. gateway markets as a result of Gulf Carrier service. Indeed, the CL regressions produce coefficients of -0.08 to -0.09 for the variable "Number of Gulf Carriers Present", which corresponds to 8-9% loss in bookings per Gulf Carrier. This coefficient is approximately the same for Gulf Carrier U.S. gateway bookings and for behind U.S. gateway bookings, which runs contrary to common sense, especially in view of the relatively small numbers involved for Gulf Carriers' behind U.S. gateway traffic.

²² See also, Technical & Clarification Questions on the Gulf Subsidies Report, prepared by the Legacy Carriers and posted in the Department of State docket on June 16, 2015. The relevant qualifications are stated at page 55 and footnote 197.

5.0 The Compass Lexecon Regression Models Used to Assess Traffic Demand Are Technically Flawed

5.1 Introduction

Campbell-Hill was retained by Emirates to investigate the integrity and reasonableness of the Compass Lexecon regression models. For this analysis Campbell-Hill acquired the MIDT data for Q2, 2009 through Q1, 2015 from its vendor, Travelport.²³ This data file contains booking information from the same 10 GDS's that Compass Lexecon has in its database. For purposes of assigning bookings to O&D city-pairs, Campbell-Hill accepted the methodology utilized by Travelport. Compass Lexecon presumably did likewise with the MIDT dataset it received from Delta, or else it would have needed to describe its own algorithm in the report.²⁴

The Campbell-Hill analysis proceeds on two tracks: (1) an investigation of the structure and results of the Compass Lexecon regression models, and (2) the development of technically sound, simpler models for assessing the impact of the Gulf Carriers on traffic carried by the Legacy Carriers plus their JV Partners. The findings of the Campbell-Hill models corroborate and substantiate the findings described in Emirates' June 29 Report (see especially, Section IV). For purposes of this investigation Campbell-Hill restricted its analysis to the MIDT bookings data since it did not have permission to utilize the confidential DOT international O&D Survey data. However, this limitation does not impact the competition analysis or its findings.

The Compass Lexecon study makes two basic claims: (1) Gulf Carrier gains come at the expense of Legacy Carriers and their JV Partners, and (2) Gulf Carriers do not stimulate additional demand. These claims have been found to be not credible, and they contradict the actual history of booking volumes over the period of study. Furthermore, CL supports its claims with a set of regressions that have fundamental flaws that invalidate both of these conclusions. Moreover, if one steps back from the regression analyses and technical economic data, the assertion by the Legacy Carriers and Compass Lexecon that the three Gulf carriers have not "meaningfully" stimulated demand but instead have simply "stolen" already extant traffic that would have

²³ Data for 2008 are no longer available or relevant to this analysis. Only the most recent six years of data are available from Travelport, beginning with Q2, 2009.

²⁴ Certain figures and charts in Emirates' June 29 Report were produced by the Company's Planning Department. Its MIDT database is acquired from DOB Systems, and it has nine of the ten GDS sources as the Travelport data. Emirates' data file excludes Axxess which is a Japan based GDS. Emirates algorithm for assigning trip itineraries to discrete O&D markets is different from Travelport (See Emirates' June 29 Report, page 104, footnote 223).

flowed over the Legacy Carriers and their JV Partners is bizarre on its face. Can it really be that Emirates, for example, which now connects nine U.S. cities with online service on a convenient one-stop basis with ten cities in India—more cities in India than all the Legacy Carriers and their JV Partners combined—has done nothing to stimulate demand between these two populous, vibrant, and increasingly connected nations? The answer is “no,” as the analysis below demonstrates.

5.2 Claims That Gulf Carrier Gains Have Come at the Expense of Legacy Carriers Are Not Proven

Compass Lexecon uses regression analysis in an attempt to support its claim that Gulf Carrier gains have come at the expense of Legacy Carriers and their JV Partners (see CL Exhibit 7). CL constructed regression models with a large number of explanatory variables (including Population, Income per Capita, and dummy variables for each quarter of the year and for each year from 2008 to 2014) as well as the variable of primary focus; namely, “Number of Gulf Carriers Present.” The dependent variable is the natural logarithm of the number of passengers during a particular quarter, for a given city-pair.²⁵ CL finds a coefficient -0.08 on the variable “Number of Gulf Carriers Present.” Presence is defined as having a 3% or larger share in that market. CL claims this “proves” that each Gulf Carrier present in a given market causes a decrease of 8% in passengers for Legacy Carriers, and 9% for the Legacy Carriers plus JV Partners.

The primary reason to doubt the CL regression analysis is that its conclusions are in direct contradiction with the actual history of bookings over the period examined. As a point of fact, bookings by Legacy Carriers and their JV Partners have not declined – they have increased over the period, even as Gulf Carriers have increased their presence in a number of markets. How, then, is it possible for the regression analysis to point to the exact opposite conclusion? There are two main issues, both having to do with the “independent” variables that CL uses in its study.

The first issue is *collinearity*. Independent variables in a regression exhibit collinearity if there is correlation between them. When this happens, the effects of one variable become

²⁵ The focus is on Legacy Carrier passengers and Legacy Carrier plus JV Partners’ bookings, as well as other non-Gulf foreign carriers (as a group).

intertwined with the effects of the other, and it is not possible to draw reliable conclusions about the role of individual predictors.²⁶ In simple terms, collinearity means that two variables are behaving in a similar manner, and without information on what sort of cause and effect relationship may exist between them, their regression coefficients mean very little.

By design, the CL regressions include a significant number of independent variables that are used to “explain” the bookings data. The problem is that “Number of Gulf Carriers Present” is correlated with measures of economic activity, with yearly dummy variables, and indeed with the total amount of bookings in the markets under study. As economic activity rises, more markets become economically viable and more traffic will flow in existing markets. Thus, Gulf Carriers have entered markets in tandem with overall economic growth over the last few years. This is natural and logical. Therefore, collinearity exists between “Number of Gulf Carriers Present” and the other independent variables in the CL regression, which are there primarily to control for the level of economic activity.

The second fundamental flaw in the design of the CL models has to do with the baseline against which change in passenger volume is measured. Given that the -0.08 regression coefficient goes against the actual history of bookings by Legacy Carriers and their JV Partners, and given the collinearity of “Number of Gulf Carriers Present” with other predictors, what does the -0.08 coefficient actually measure? By controlling for all the other independent variables, CL is in effect claiming for Legacy Carriers their historical share of *new* business as well as their pre-existing business. Using the variables for each year and quarter, in addition to measures of economic growth such as population and income, CL is predicting the variation of traffic over time for any particular market. This prediction then becomes the baseline against which the effects of “Number of Gulf Carriers Present” are measured. Any percentage increase or decrease is relative to this baseline.

An example will illustrate this point. Consider a simplified situation with two markets, A and B, each with an initial total of 100 Legacy Carrier bookings and no Gulf Carrier bookings. In market A, Legacy Carrier bookings increased to 105 in one year, and there were no Gulf Carrier bookings. In market B, Legacy Carrier bookings increased to 101 and Gulf Carrier bookings went from 0 to 20. The average increase of Legacy Carrier bookings is then 3%. This is the

²⁶ See, for example, Keller, G. and Warrack, B., Statistics for Management and Economics, 2004, at pages 631-635.

figure that represents the baseline, after the regression controls for the effect of the “Year” variable. Relative to that baseline, Legacy Carrier bookings declined by 2% in market B and increased by 2% in market A. Therefore, we will see a coefficient of -.04 on the variable “Number of Gulf Carriers Present,” since a change from 0 to 1 is associated with a change in bookings from 2% to -2%. However, actual Legacy bookings increased in both market A and market B. Gulf Carriers generated substantial new business in market B without causing any decline in Legacy Carrier business.

For purely arithmetical reasons, any increase in one carrier’s market share must be offset by a decrease in the market shares of one or more other carriers. As Gulf Carriers have entered new markets, naturally their market share has increased, and again for purely arithmetical reasons, market shares of other participants in that market must decline. The record shows that while Legacy Carriers and their JV Partners have on average “lost” market share (in percentage terms) to the Gulf Carriers, their combined bookings have continued to grow. Any claim that Gulf Carrier gains have come at the expense of Legacy Carriers and their JV Partners is without empirical foundation. Since antitrust immunity conferred on the Legacy Carriers and their JV Partners makes traffic fungible between them, any analysis of traffic or booking changes that separates Legacy Carriers and their JV Partners in regression analysis portrays a grossly distorted and erroneous picture.

5.3 The Claim That Gulf Carriers Have Failed to Meaningfully Stimulate Demand Is Not Proven by the CL Analysis

Compass Lexecon developed additional regressions to support this claim (see CL May Report, Exhibit 9). For these regressions, the dependent variable is total traffic in each market. The CL analysis is fundamentally flawed and its conclusions are simply spurious. Due to collinearity between the variable “Number of Gulf Carriers” and other independent variables such as year, population growth, etc., no conclusions about causality or lack thereof can be drawn. For example, if one of the Gulf Carriers starts new online service between a city-pair, this results in a substantial increase in new business. Naturally, such expansion is more likely to have been undertaken when the markets involved are experiencing economic growth. In such a circumstance, the CL regression analysis of total traffic attributes much of the new business to the economic growth variables, or the year variables, leaving a residual negative effect for the

variable “Number of Gulf Carriers Present.” Thus, much of the demand stimulation due to Gulf Carriers is obscured inside the “black box” of the regression analysis. This includes Gulf Carriers’ development of new markets, which is obviously causally linked to Gulf Carriers’ actions on market entry and scheduling.

CL’s analysis of demand growth also suffers from the same fundamental flaws. The use of numerous independent variables to predict demand implicitly sets an artificial and unreasonably high baseline for what constitutes new business. CL is claiming for Legacy Carriers (or Legacy Carriers plus JV Partners) a constant share of new business, as determined by the regression analysis prediction. In effect, if a Gulf Carrier develops a new market, this business is not considered “demand stimulation” unless Legacy Carriers have also received their full “cut” of anticipated business growth. This concept of entitlement to market share—assuming ownership of customers both old and new—is the antithesis of the pro-competitive principles of U.S. aviation policy, including Open Skies.

Both CL regression analyses attempt to obscure the reality that the analyses assume the Legacy Carriers and their JV Partners are guaranteed a share of business in markets they did not develop. This is accomplished by attributing virtually all of the business growth to economic and year variables, and then asserting through statistical modeling that Legacy Carriers and their JV Partners are “entitled” to their pre-existing share of the expanded pie. The reality is that Legacy Carriers and their JV Partners have experienced gains in bookings, but they have not expanded into new markets as have Emirates and the other Gulf Carriers.

5.4 There Are Fundamental Flaws in CL’s Use of “Number of Gulf Carriers Present” as an Independent Variable

There are two fundamental flaws in CL’s choice of the key independent variable in its regression models. The choice of a 3% or greater market share is arbitrary, and the regression cannot differentiate along the spectrum market share, even though this should be vital to any assessment of traffic impacts.

First, the use of an artificial 3% threshold for presence in a market is a peculiar choice for which CL provides no basis or justification. It tests credibility to understand how such a small market presence could have such a substantial negative impact on Legacy Carrier traffic as is

claimed, i.e., 8%.²⁷ Furthermore, on the issue of demand stimulation, CL claims that Gulf Carriers stimulate demand by approximately 2.7% in the markets in which they operate.²⁸ This is not a small number for a carrier with a 3% market presence. A sounder choice of independent variable would be the total volume of Gulf Carrier bookings in each market. “Total Gulf Carrier bookings” is preferable because it is a measure of the direct outcome of competition, and is a continuous numerical statistic and not a discreet interval threshold that is arbitrary and unsupported.

Second, CL does not provide a justification for differentiating between a scenario with one Gulf Carrier having a 15% share and three Gulf Carriers each with a 5% share. Yet each is represented very differently in the model, and the traffic impact on Legacy Carriers plus JV Partners is three times as great with three carriers each having a 3% market share.

The CL model uses this compounding effect to produce unsupported and mistaken extrapolation. For example, at the top of page 17 of the CL May Report, a calculation begins with a coefficient of -.169 as the effect of a single Gulf Carrier on Legacy Carrier demand with a share of 10% or more. The effect of three such carriers is calculated by multiplying that number by three ($-.169 \times 3 = -.507$) and concluding that Legacy Carrier passengers decline by 51% with three Gulf Carriers. There is no support for combining these effects additively, and in fact it should be clear on economic grounds that the effects of multiple competitors would diminish as the number of carriers increases. Such an effect cannot be seen in the CL regressions, since by design they assume that the effects are linear in the number of carriers. Still, working within the context of CL’s model in which the natural logarithm of the dependent variable depends linearly on the independent variables, one should more correctly calculate the decrease in bookings in the presence of three Gulf Carriers as $\exp(-.507) = .602$. This appears to be a basic arithmetic mistake that exaggerates further—by 25%—the flawed finding of impact on Legacy Carrier traffic.

5.5 The Regression Models Have Design Flaws That Invalidate Claims of Harm to Legacy Carriers and Their JV Partners

²⁷ For the Legacy Carriers regression models, CL found that each Gulf Carrier with a 3% market share produces an 8% decline in Legacy Carrier traffic.

²⁸ CL May Report, page 21.

The CL study combines all geographical market regions in a single regression analysis. By doing so, it incorporates irrelevant markets to determine expectations for growth. CL has created bias by including markets where the Gulf Carriers do not compete (for example East Asia and Europe). Growth in such markets can create false expectations for what constitutes “normal” growth over the time period in question for the relevant markets. CL should have run separate models for each major market area at issue in this case; namely, U.S.-India Subcontinent, U.S.-ASEAN, U.S.-Africa, and U.S.-Middle East.

Furthermore, CL does not translate its regression output into economic terms. It does not indicate the number of passengers diverted by the Gulf Carriers, according to their models. Nor does CL tell the reader how much the markets grew. Regression models are only a tool to get to those kinds of answers. Instead, CL leaves the reader with an unclear notion of average passenger loss in percentage terms. CL has also produced no estimates of revenue loss, which is a key measure of economic harm. Furthermore, CL’s analysis is predicated on the idea that loss of percentage share in a market equates to loss of revenue, when in fact revenue and passengers may well have increased at lower market shares (percentages). The truth is the Legacy Carriers have suffered no diversion of traffic or revenue, net of transfers to their JV Partners.

To expand upon this point, it should be clear that travel from the United States to the India Subcontinent for example, via interline routing over Europe, and possibly another interline connection to a domestic carrier in India, is significantly less convenient compared to online one-stop travel to the India Subcontinent via the Middle East. Traffic to the India Subcontinent will inevitably tend to flow most along paths that are more efficient for the passenger. This explains, in part, why there has been a greater increase in U.S.-India Subcontinent traffic via the Middle East compared to routings via Europe. Yet the Legacy Carriers seek protection from competition in city-pair markets where they are not themselves even attempting to compete effectively, even though the bilateral agreements permit them to do so.

5.6 The CL Regression Models Are Not Consistent With Each Other and Some of the Results Violate Common Sense

There are many examples of regression coefficients whose values either violate common sense or are inconsistent between Exhibits 7 and 9 in the CL May Report. For example, the coefficient -0.08 for “Number of Gulf Carriers Present” in exhibit 7 is virtually identical in

column 1 (Gulf Carrier US Gateways) and in column 2 (Behind Gulf Carrier US Gateways). Gulf Carriers cannot compete as effectively in behind gateway markets, as passengers would need to make an interline booking and change carriers and often terminals at the gateway. The fact that the coefficients are nearly identical casts doubt on the notion that they realistically measure much of anything. The collinearity example above shows how a negative coefficient can be generated spuriously. Another glaring example of inconsistency is the coefficients of the variables “ln (Population)” and “ln(Income per Capita),” which have nearly double the values in Exhibit 7 as they have in Exhibit 9 (column 1). If these regression coefficients are not consistent from one study to another, then other regression coefficients cannot be trusted.

As already explained, the regression analysis has many design flaws, and these inconsistencies are further proof that the results cannot be relied upon by U.S. policy makers. Furthermore, CL provides no evidence of any rigorous testing of their models, and the results are not compared to any independent studies.

Furthermore, there is no directionality or causality implied by the CL fare regression model. Whether the Gulf Carriers initiated fare reductions and the Legacy Carriers responded, or whether the Legacy Carriers initiated fare reductions and the Gulf Carriers responded, or whether other carriers initiated fare reductions and Gulf Carriers and Legacy Carriers responded, the regression coefficients would be the same. One cannot determine from the model which group was the price leader.

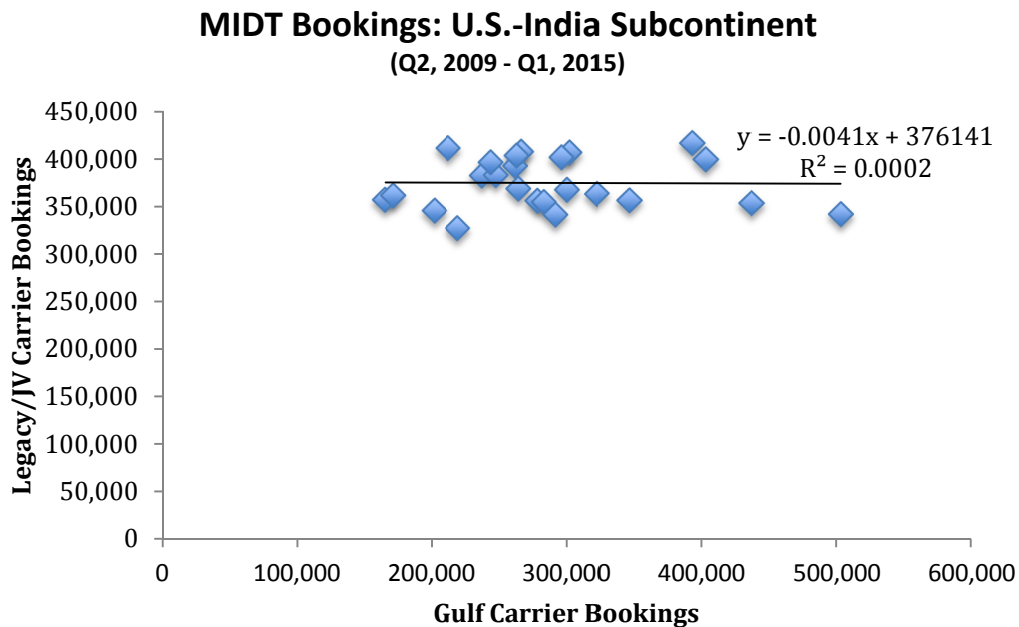
A proper traffic analysis would look directly at changes in the actual number of passengers or bookings on Legacy Carriers, their JV Partners, and their Gulf competitors in the separate geographical market areas in this inquiry. Such an analysis shows that Legacy Carriers and their JV Partners have experienced no loss of business due to the operations of Gulf Carriers, and that gains by Gulf Carriers have occurred primarily in markets where Legacy Carriers and their JV Partners are not offering comparable service. These findings are addressed in the following sections.

6.0 Major Market Bookings By Legacy Carriers And Their JV Partners Have Not Declined When Gulf Carrier Bookings Increased

Campbell-Hill has calibrated a set of simple, transparent regression equations to answer the following question about the level of bookings by the two groups of carriers during the period Q2, 2009 Q1, 2015: Are higher levels of Gulf Carrier bookings associated with lower levels of bookings by Legacy Carriers and their JV Partners? In all Gulf Carriers' major market regions the answer is no. For each region, U.S.-India Subcontinent, U.S.-ASEAN, U.S.-Africa, and U.S.-Middle East. Campbell-Hill plotted bookings by the Legacy Carriers and their JV Partners versus Gulf Carrier bookings on a quarterly basis. The results, along with trend lines, are shown below. (Each diamond represents the observation of one calendar quarter.) Let us examine each market region in turn for the period Q2, 2009 through Q1, 2015.

The U.S.-India Subcontinent regression line is virtually flat, clearly indicating that bookings by Legacy Carriers and their JV Partners did not decline when Gulf Carrier bookings rose (Chart 4 below). In fact, there is no correlation whatsoever between the two bookings numbers. Legacy Carrier/JV Partner bookings have increased and decreased over time, but in doing so they bore no relation to Gulf Carrier bookings.

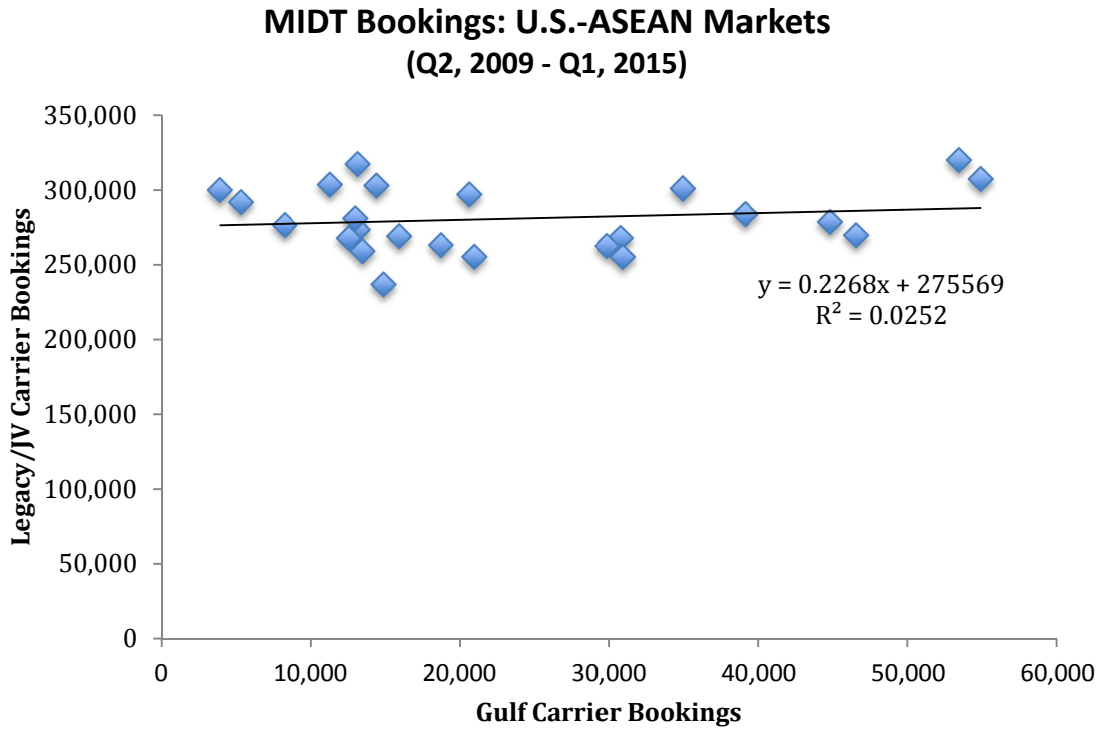
Chart 4



Source: MIDT bookings data from Traveport.

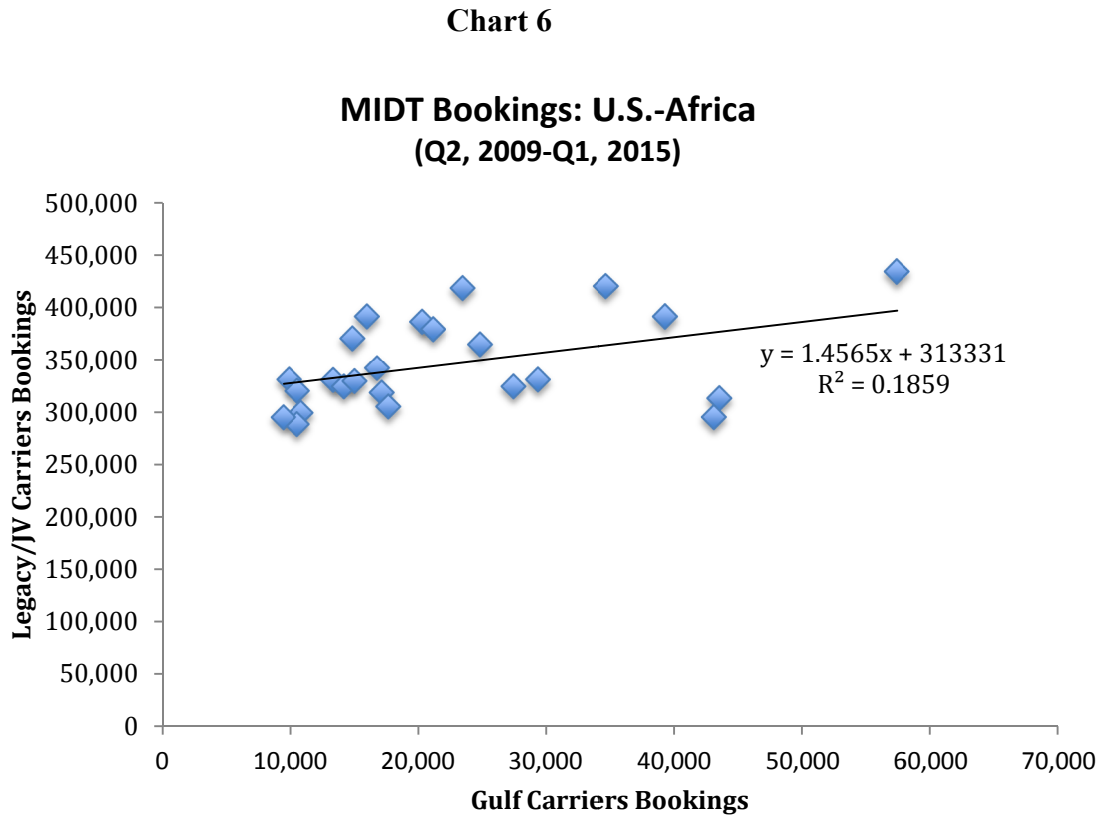
When the U.S.-ASEAN markets are examined (Chart 5 below), there is actually a small increase in bookings by Legacy Carriers and their JV Partners with rising Gulf Carrier bookings. The regression line has a slope of 0.23, which means that for every 100 additional bookings by Gulf Carriers, there have been 23 additional bookings by Legacy Carriers and their JV Partners.

Chart 5



Source: MIDT bookings data from Travelport.

In the case of the U.S.-Africa market (Chart 6 below), increased Gulf Carrier bookings have been associated with greater bookings for Legacy Carriers and their JV Partners. The regression line has a slope value of 1.46, meaning that for every 100 additional bookings by Gulf Carriers, there have been 146 additional bookings by Legacy Carriers and their JV Partners.

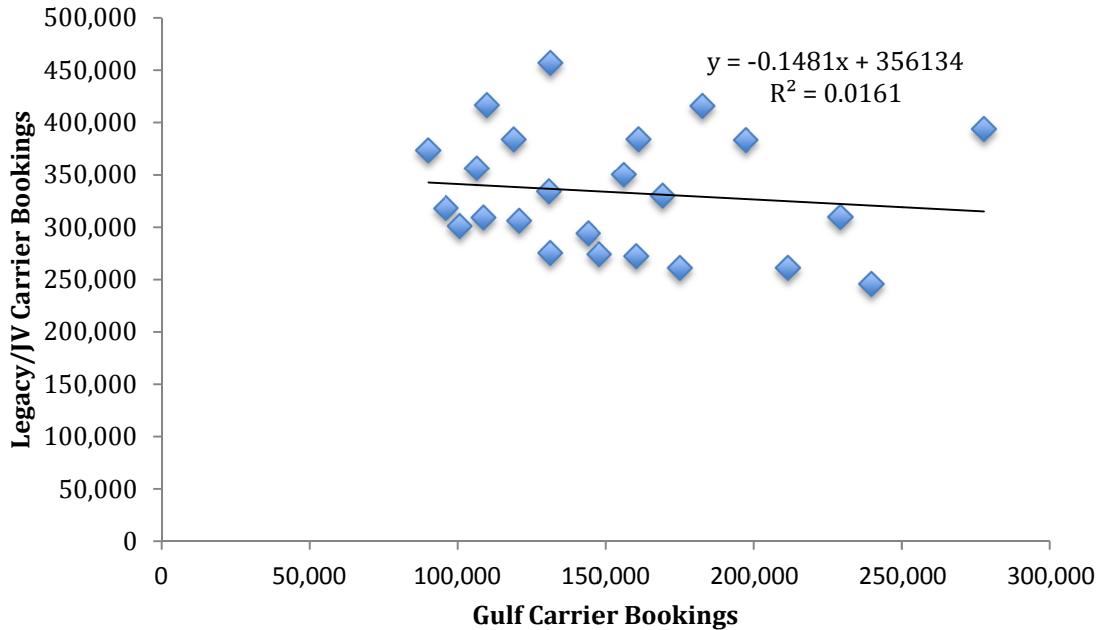


Source: MIDT bookings data from Travelport.

The U.S.-Middle East data shows that bookings by Legacy Carriers and their JV Partners decline slightly as Gulf Carrier bookings rise (Chart 7 below). The regression line has a slope value of -0.15. This should not be surprising, as one would expect the Gulf Carriers to have a comparative advantage in serving destinations in their own homelands (third/fourth freedom traffic), and other regional markets like U.S.-Saudi Arabia. Gulf Carriers are developing new business in the U.S.-Middle East market without significantly threatening any existing business that Legacy Carriers and their JV Partners have enjoyed.

Chart 7

**MIDT Bookings: U.S.-Middle East
(Q2, 2009-Q1, 2015)**



Source: MIDT bookings data from Travelport.

It should be noted that there is a considerable amount of scatter in the data for all four major markets, as evidenced by the low R^2 values. This is to be expected for quarterly figures, because of seasonal variation. Exhibit 10 contains a similar set of plots based on annual figures. They show virtually identical patterns as those described above using quarterly data. However, the annual data used in Exhibit 10 indicate somewhat larger R^2 values because seasonal variation is eliminated. In general, however, the association between the two sets of booking figures is not particularly tight. This is consistent with the reality that Gulf Carriers are frequently in markets not well served (or even served at all) by Legacy Carriers and their JV Partners (e.g., because of the lack of an online connection to the destination).

It is clear from this simple regression that larger values of Gulf Carrier bookings are not associated with lower values of bookings by Legacy Carriers and their JV Partners in the sixth freedom markets [6th freedom for the Gulf carriers] at issue in this inquiry.

7.0 There Is No Causal Relationship Between Changes In Gulf Carrier Bookings And the Bookings of Legacy Carriers and Their JV Partners

Campbell-Hill also analyzed the year-to-year bookings changes, by market area, for the Legacy Carriers and their JV Partners versus year-to-year changes in bookings recorded by the Gulf Carriers. For this analysis four-quarter totals of bookings were created²⁹ for the six 12-month periods for which Campbell-Hill was able to acquire MIDT data from Travelport. The year-to-year changes in bookings are shown in Chart 8 below. Each year represents the year ending in the first quarter. For example, the 2011 figure represents the change in traffic between the year ended Q1, 2010 and the year ended Q1, 2011. The relationship between changes in Gulf Carrier volume and changes in volume for Legacy Carriers and their JV Partners is shown in Chart 8.

Chart 8
Change in MIDT Bookings From Prior Year

Year Ending Quarter 1	U.S.-India Subcontinent		U.S.-ASEAN		U.S.-Africa		U.S.-Middle East	
	Gulf Carriers	Legacy/JV Carriers	Gulf Carriers	Legacy/JV Carriers	Gulf Carriers	Legacy/JV Carriers	Gulf Carriers	Legacy/JV Carriers
2011	201,068	176,694	23,086	-31,797	6,660	59,506	68,901	96,950
2012	107,791	-55,128	6,784	-71,216	10,076	21,893	78,553	-206,195
2013	58,716	-32,046	32,376	14,599	16,550	49,915	86,880	34,658
2014	142,890	45,082	43,832	18,434	36,904	19,481	71,048	-87,288
2015	469,188	-15,943	64,725	73,707	67,005	-7,809	255,903	-36,638
Total	979,653	118,659	170,803	3,727	137,195	142,986	561,285	-198,513

Source: MIDT data from Travelport.

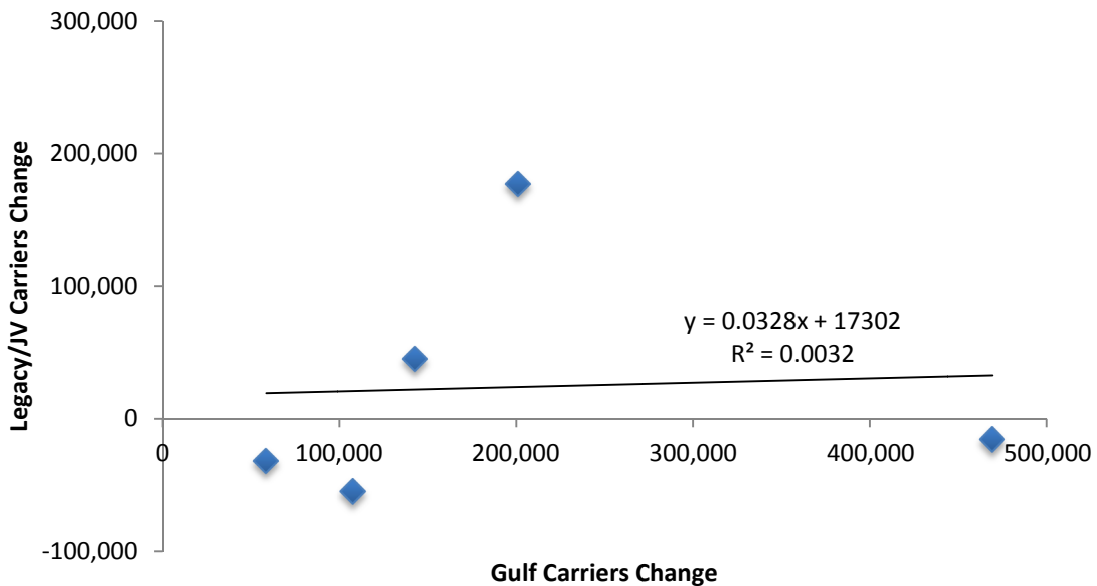
If Gulf Carrier gains were occurring at the expense of the Legacy Carriers and their JV Partners, one would expect to see a pattern wherein years with large Gulf Carrier gains coincide with years of large losses by Legacy Carriers and their JV Partners. The actual history of gains and losses in these markets is quite different. Let us examine each major market in turn, starting with the markets experiencing the largest changes.

²⁹ Q2, 2009- Q1, 2010, Q2, 2010 – Q1, 2011, Q2, 2011 – Q1, 2012, Q2, 2012 – Q1, 2013, Q2, 2013 – Q1, 2014 and Q2, 2014 – Q1, 2015.

In the India Subcontinent, one may observe large gains by both carrier groups in 2011. Gulf Carriers showed steady gains in 2012-2014 and a very large gain in 2015, while the volume of traffic with Legacy Carriers and their JV Partners was relatively flat, with small losses in 2012 and 2013 and a small gain in 2014 – but almost no loss of traffic in the 2015, when Gulf Carriers experienced their largest gain. The scatterplot (Chart 9 below) shows a flat trend line, which explains almost none of the variation in the data ($R^2 = 0.003$). Thus, although Gulf Carriers experienced substantial gains in the India Subcontinent, those gains have not come at the expense of Legacy Carriers and their JV Partners. It would appear that Gulf Carriers are developing new business that is unrelated to the existing demand served by Legacy Carriers and their JV Partners.

Chart 9

Change in MIDT Bookings from Previous Year: U.S.-India Subcontinent (YE Q1 2010-YE Q1 2015)

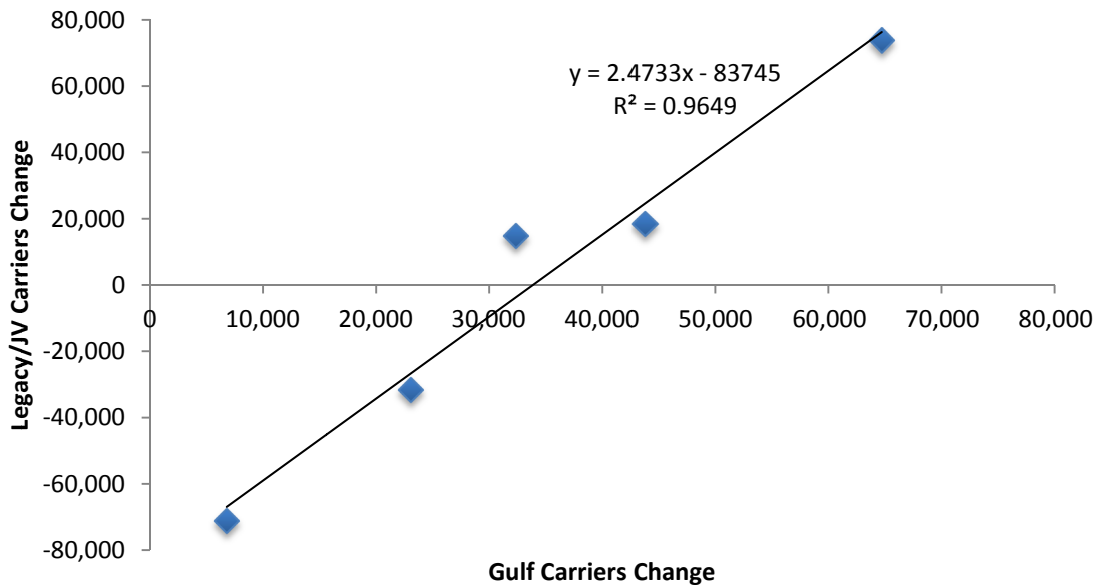


Source: MIDT data from Travelport.

In the U.S.-ASEAN market a pattern of steady gains by Gulf Carriers and a mixed pattern of offsetting losses and gains in different years for Legacy Carriers and their JV Partners may be seen from the data. However, the scatterplot (Chart 10 below) shows a very strong positive relationship ($R^2 = 0.96$), indicating that the years when Legacy Carriers experienced large growth coincided with years when Gulf Carriers also experienced larger than typical growth. Again, this does not fit a picture of Gulf Carrier gains coming at the expense of the Legacy Carriers and their JV Partners. In fact the regression equation shows that for every 10,000 bookings increase by the Gulf Carriers, the Legacy Carriers and their JV Partners enjoyed an increase of 24,733 bookings.

Chart 10

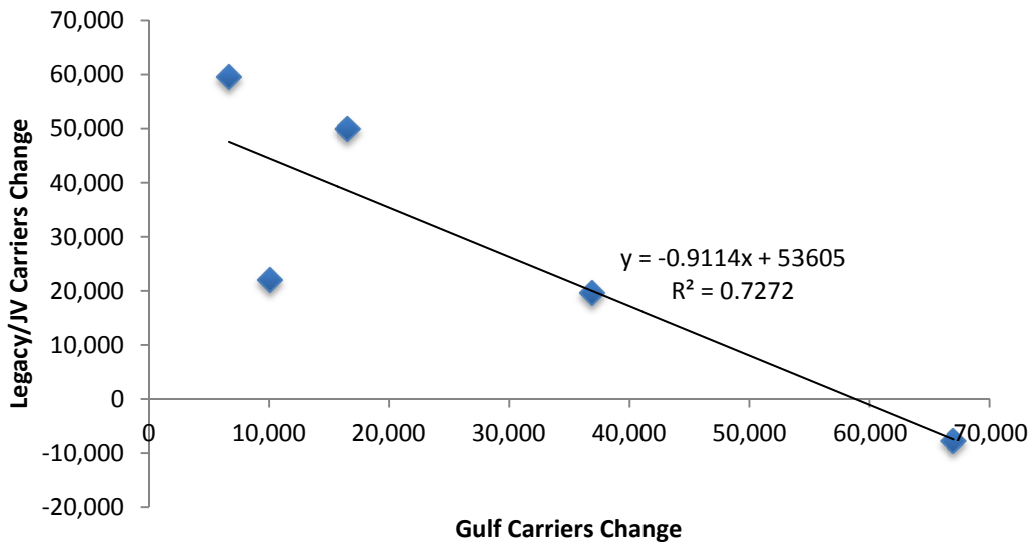
**Change in MIDT Bookings from
Previous Year: U.S.-ASEAN Markets
(YE Q1 2010-YE Q1 2015)**



Source: MIDT data from Travelport.

For the U.S.-Africa market there is a pattern of steady growth in Gulf Carrier volume, with the largest growth occurring in the last two years. But Legacy Carriers and their JV Partners have also had steady growth, with their largest gains occurring in 2011 and 2013. In fact the total growth over the five-year period is 4% larger for Legacy Carriers and their JV Partners than for Gulf Carriers (Chart 8 above). The scatterplot (Chart 11 below) shows a negative relationship, but this is mainly a reflection of the fact that the two carrier groups experienced their largest gains in different years. This history does not support claims that Gulf Carrier gains have come at the expense of the Legacy Carriers and their JV Partners. In fact, there have been no significant losses by either carrier group, and Legacy Carriers and their JV Partners have developed more new business in the U.S.-Africa market than did the Gulf Carriers.

Chart 11
Change in MIDT Bookings from Previous Year: U.S.-
Africa
(YE Q1 2010-YE Q1 2015)



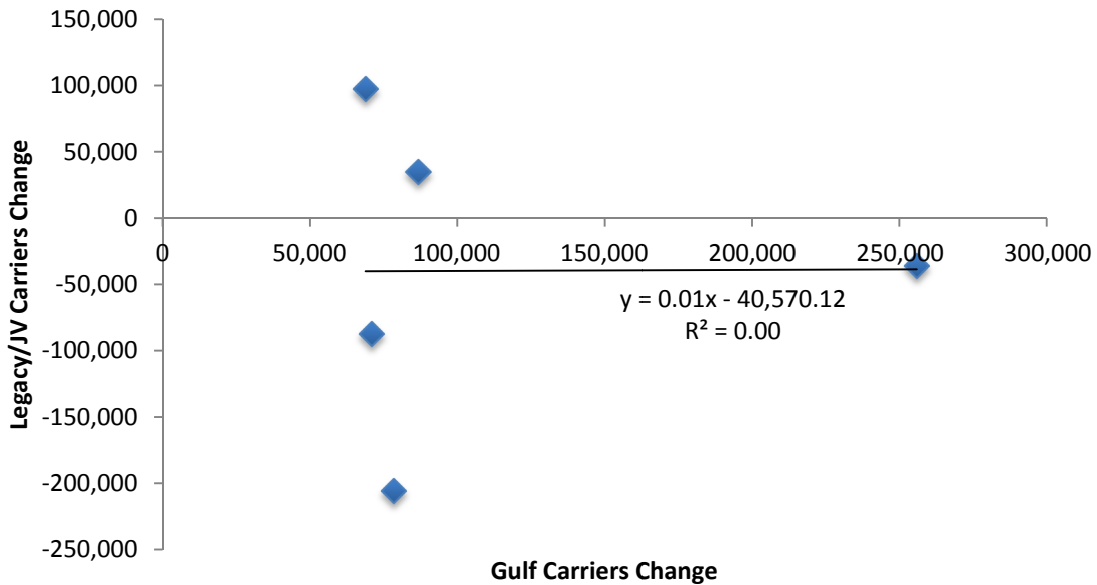
Source: MIDT data from Travelport.

The Gulf Carriers have been making steady gains in the U.S.-Middle East markets, with a large increase in the last interval studied (year ended Q1, 2015). In contrast, Legacy Carriers and their JV Partners have gained in some of those years, while experiencing losses in others. The largest loss occurred in 2012, but the amount was almost three times the gain by Gulf Carriers in

that year (and Gulf Carrier gains were not significantly different from 2011 or 2013, years in which Legacy Carriers and their JV Partners experienced gains). The large gain by Gulf Carriers in 2015 was not accompanied by a significant loss by Legacy Carriers and their JV Partners. The scatterplot relationship between the two sets of figures (Chart 12 below) shows there is no relationship: the least-squares fit is virtually flat, and it explains none of the variation in the data ($R^2 = 0.00003$).

Chart 12

Change in MIDT Bookings from Previous Year: U.S.-Middle East (YE Q1 2010-YE Q1 2015)



Source: MIDT data from Travelport.

To summarize, the history of year-to-year changes by the two carrier groups does not support any finding that Gulf Carrier gains have come at the expense of the Legacy Carriers and their JV Partners. The analysis does indicate that there is little, if any, causal relationship in the year-to-year changes between the two carrier groups.

8.0 The Compass Lexecon Fare Regressions Are Technically Flawed

The CL April Report develops a regression analysis of fare effects based on the methodology of Brueckner et al.³⁰ The endpoint of the analysis is a claim that each Gulf Carrier present in a market is associated with a 4.3% decline in average fares for Legacy Carriers (see Exhibit 18 of the CL April Report). The CL fare regressions suffer from many of the same problems that invalidate the traffic regressions (see Section 5.0 above). Campbell-Hill expects that some decline in fares is inevitable when competition increases. However, as discussed in Appendix B, the independent analysis of Dresner et al.³¹ is a much better guide to the effect of Gulf Carriers on traffic and fares. Dresner et al. found that there is a small but statistically significant effect on fares: “a 1% growth in total Gulf carrier traffic to or from the U.S. is associated with a less than 0.1% drop in U.S. carriers’ international passenger traffic and a less than 0.1% decrease in air fares.”³² The larger issue is whether a decline in fares (either 4.3% from the CL April Report or 0.1% from Dresner et al.) is a good thing or a bad thing. From the consumer’s point of view, a decline in fares is a good thing. Using the CL April Report and Brueckner et al., Campbell-Hill shows in Appendix A that elevated average fares of Legacy Carriers and their JV Partners are linked to antitrust immunity. The advent of non-immunized competition leads to a beneficial competitive fare effect. The magnitude of the decline in fares is, however, not so large as to imperil the profitability of the Legacy Carriers, who are currently reporting record profits after recent consolidations.³³ Their reported Q2, 2015 and first half, 2015 results are shown in Chart 13 below. The following subsections detail the numerous design flaws and inconsistencies in the CL fare regressions.

³⁰ Brueckner et al., “Alliances, Code-sharing, Antitrust Immunity, and International Airfares: Do Previous Patterns Persist?” *Journal of Competition Law and Economics* Vol 7, p273, 2011.

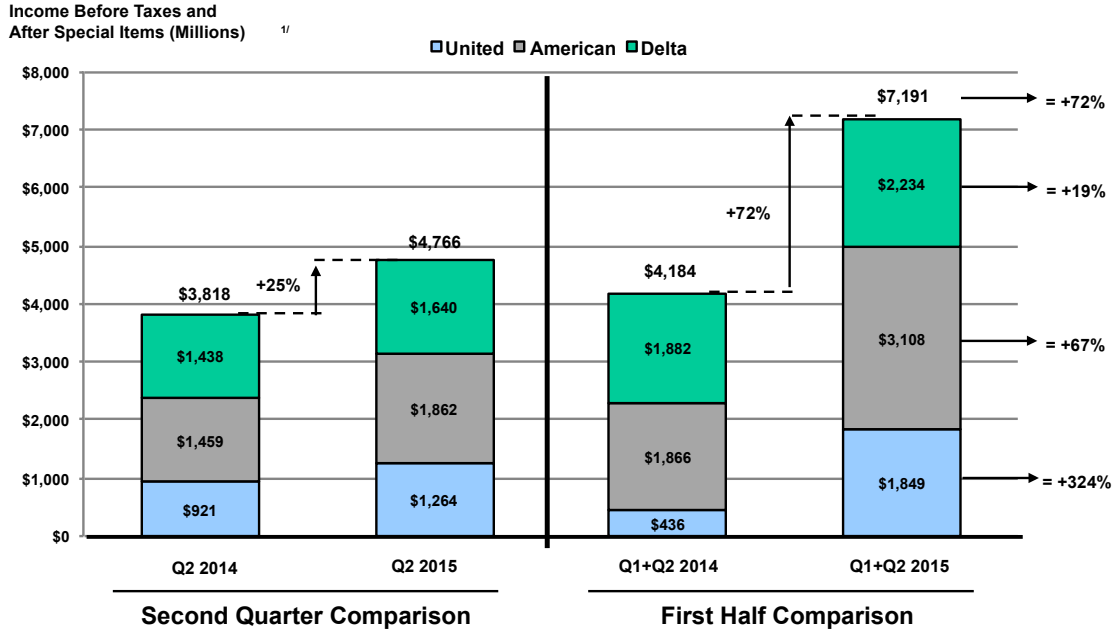
³¹ Dresner et al., “The Impact of Gulf carrier competition on U.S. airlines.” *Transportation Research A* 79, 31 (2015).

³² Dresner et al., page 40.

³³ “For U.S. airlines, yield, not fares, dictates profit,” *Travel Weekly*, May 3, 2015.

Chart 13

The Legacy Carriers' Exceptional Profitability Has Accelerated In Q2 2015 and for the First Half of 2015



^{1/} Net income after adjusting for special items and before income tax.

Source: Delta Air Lines, Delta Air Lines Announces March Quarter Profit, April 15, 2015; United Airlines, United Airlines Announces Record First Quarter Profit, April 23, 2015; American Airlines Group Reports Record First Quarter Profit, April 24, 2015; American Airlines, American Airlines Reports Highest Quarterly Profit in Company History, July 24, 2015; Delta Air Lines, Delta Air Lines Announces June Quarter Profit, July 15, 2015; United Airlines, United Announces Highest Ever Quarterly Profit, July 23, 2015.

8.1 Lack of Passenger Weighting

In the CL fare regressions, the unit of observation is a city-pair market, and *each market is weighted equally*, no matter how many passengers are involved. Thus, markets with as few as 10 passengers per year count just as much in the CL regression model as markets with 10,000 passengers in a year. Campbell-Hill has determined that over 50% of the markets at issue have 10 or fewer passengers per year (see Chart 14). It is also worth noting that 78% of all the markets in the CL regression model are interline/behind the U.S. gateway markets where the Gulf Carriers are limited to connections available on U.S. airlines.

Chart 14

MIDT Bookings Year Ended Q3, 2014

	More than 10	10 or Less	Total	% of Total That Are 10 or Less
Gulf Carrier Gateways Behind Gulf Carrier Gateways	991 3,368	995 3,516	1,986 6,884	50% 51%
Combined Total	4,359	4,511	8,870	51%

Source: MIDT data purchased from Travelport.

Bruckner et al. indicate that their lack of passenger weighting is a holdover from the practice of prior academic studies.³⁴ Nevertheless, from a policy perspective, markets should be weighted by their economic importance – it makes no sense to base policy on the behavior of fares in trivial size markets.

8.2 Inclusion of Irrelevant Markets Skews the Statistical Results

CL includes essentially every city-pair market that involves a Gulf Carrier U.S. gateway, either as an origin/destination or as a possible connection point. Thus, they examined markets that include “73% of all international bookings between the United States (lower 48 states) and destinations in Europe, Asia, the Middle East, Africa and Australasia.”³⁵ Many of these markets (in particular U.S.-Europe markets) have virtually no Gulf Carrier presence, except for the single route between New York (JFK) and Milan (1.3% of U.S.-Europe onboard passengers on all scheduled carriers). The inclusion of U.S.-Europe markets is of particular concern because U. S. originating fares on foreign airlines (including Alliance and JV Partners) increased by 27.9% from 2010 to 2014.³⁶ By including U.S.-Europe markets, CL is effectively establishing an unreasonably high baseline for what constitutes a “normal” change in fares. Since markets with Gulf Carrier presence have not experienced fare increases comparable to the U.S.-Europe markets, the regressions attribute the fare effect to Gulf Carrier presence. In reality, rising fares in U.S.-Europe markets are facilitated by airline consolidation and antitrust immunity (see

³⁴ “Alliances, Code-sharing, Antitrust Immunity, and International Airfares: Do Previous Patterns Persist?” Brueckner, Lee, and Singer, *Journal of Competition Law and Economics* 7(2011), p. 584.

³⁵ CL April Report, page 41.

³⁶ Bureau of Labor Statistics Import/Export Air Passenger Fare Indices.

Appendix A). A proper analysis of the fare effect of Gulf Carrier presence should have been done on a regional basis, using only relevant market regions. U.S.-Europe is not one of those.

Similar fatal flaws appear in the CL traffic regressions. Campbell-Hill presented region-based traffic regressions in Section 6.0, but was unable to develop region-based fare regressions due to absence of DOT approval to utilize the confidential DB1B data in its analyses.

8.3 Fundamental Flaws in the Use of “Number of Gulf Carriers” as an Independent Variable

A count of Gulf Carriers with a minimum level of market share is not a legitimate measure of market power, as suggested by the CL regression results. An analysis of the actual relationship between the count of Gulf Carriers and U.S. airline traffic at the city-pair level further refutes the legitimacy of its use to explain traffic change. The results show that a large amount of the traffic for these markets involved no change (or a reduction) in the number of Gulf Carrier “present” from CY 2010 to CY 2014, contradicting the exaggerated charges that nearly 9,000 markets are in danger. The Campbell-Hill analysis also shows that rather than an explosion of markets going from no Gulf carriers to three Gulf carriers, the average change in the number (per market) was very modest, further undermining CL’s claims of 8% to 50% potential traffic loss.

As noted elsewhere, the 3% threshold is arbitrary and there is no evidence that the metric indicates anything. **The implied threat of 50% declines in Legacy and JV Partner traffic when all three Gulf carriers are present with 10% or more of the market involves just 23,000 out of a total of 10.6 million bookings, or 0.2% of the total bookings.**

As explained in the context of the traffic regressions, it makes no sense to combine markets with a 3% Gulf Carrier presence with others where there is a more substantial presence. Any fare effect of Gulf Carriers would be limited to markets where they have a much more substantial market share. CL’s use of arbitrary, very low thresholds is a device to justify claims that such fare effects apply to all markets with at least a 3% Gulf Carrier presence. A proper procedure would be to use the number of Gulf Carrier bookings as the independent variable in place of “Number of Gulf Carriers.”

Furthermore, CL uses “Number of Gulf Carriers” as an unwarranted extrapolation device. The vast majority of markets under discussion have either 0 or 1 Gulf Carriers present at the 3%

threshold – see Chart 15. The only exception is for the U.S.-India Subcontinent markets; yet in this case the change in the average number of Gulf Carriers from 2010-2015 is only 0.8. Yet CL multiplied its fare effect by three to illustrate the hypothetical effect of three Gulf Carriers entering a particular market.³⁷ Clearly, CL used unjustified extrapolation to generate erroneous conclusions.

Chart 15

Average Number of Gulf Carriers in Markets with $\geq 3\%$ Share*

YE Q1	Middle East	Africa	India Subcontinent	ASEAN Countries	Combined
2010	0.2	0.7	1.4	0.1	0.7
2011	0.2	0.7	1.5	0.1	0.7
2012	0.2	0.9	1.5	0.1	0.7
2013	0.3	0.9	1.5	0.2	0.8
2014	0.5	1.0	1.8	0.3	1.0
2015	0.7	1.3	2.2	0.4	1.2

*Weighted by bookings and limited to city-pairs with at least 90 bookings for every quarter from 2009Q2 to 2015Q1.

Source: 2010-2015 MIDT bookings data purchased from Travelport.

8.4 The Compass Lexecon Fare Regressions Have Not Been Translated Into Any Measure of Harm to the Legacy Carriers

Insofar as CL is claiming that Gulf Carrier operations are harming Legacy Carriers, any claims of loss of traffic or decrease in fares need to be translated into economic terms. Nowhere in either of CL’s reports is any attempt made to do so. Indeed, under the right circumstances, carriers may initiate fare reductions in order to increase passengers and improve their revenue and profits. As explained above, CL’s fare regressions are not passenger weighted, which implies they are even further removed from any connection to economic gain or loss for Legacy Carriers. Campbell-Hill’s analysis shows that the Legacy Carriers and their JV Partners have suffered no loss of traffic since 2009. In fact, their traffic has increased (see Section 6.0).

8.5 No Causal Link Has Been Established Between Gulf Carrier Actions and Fare Decreases

³⁷ CL April Report, page 45.

None of CL's regressions address the crucial issue of causation. Campbell-Hill demonstrated in Section 7.0 that there is no synchronicity in time between changes in Gulf Carrier bookings and bookings of Legacy Carriers and their JV Partners. Lacking access to the confidential DOT international O&D Survey data, Campbell-Hill is not able to perform a similar analysis on fares. However, there are many plausible scenarios for decreases in traffic or fares that have nothing to do with Gulf Carriers. For instance,

- a. Legacy Carriers and/or their JV Partners may have redeployed aircraft to other markets expected to generate higher yields (e.g., the lucrative U.S.-Europe market).
- b. Price reductions could have been initiated by Legacy Carriers or their JV Partners to increase revenue and profit, and not by the Gulf Carriers.
- c. Other carriers, especially 3rd/4th freedom carriers like Air India, could have initiated fare reductions.
- d. There may have been no change in fares and only the traffic mix changed (first class, business class, economy, deep discounts).

None of these variables or factors (a-d) were controlled for by Compass Lexecon.

8.6 Inconsistencies With Published Work and Between CL's Traffic and Fare Regressions Cast Doubt on Any Conclusions Derived From Them.

It is noteworthy that there are substantial differences between CL's fare results and those of Brueckner et al., even though the two studies share the same methodology and one named author. For example, the coefficient for the Alliance variable is +3.46% in CL's Exhibit 18, whereas the corresponding figures from Brueckner et al. range from -2.7% for U.S.-World, to -7.6% for transatlantic markets (see Table 2 in the Brueckner et al. report). It is hard to understand why Alliance cooperation should have a positive effect on fares in one study and a negative effect in the other, especially when both were authored by the same person.

As explained in Section 5.6, it is also hard to understand why the traffic regressions would yield the same 8% figure for traffic decline for both columns (1) and (2) in Exhibit 7 of the CL May Report. These columns represent traffic effects from Gulf Carrier U.S. Gateways, and from behind Gulf Carrier U.S. Gateways. Any effect on Legacy Carrier traffic should be considerably smaller for behind gateway markets, as Gulf Carriers cannot compete as effectively in the behind/beyond markets (passengers would need to make an interline booking and change

carriers and often terminals at the gateway, with security re-screening a high likelihood). Note, however, that CL's fare regressions do show a considerably smaller effect on fares for behind/beyond gateway markets: only 1% (compared to 4.3% for gateway markets). The inconsistency with the results of the traffic regression creates further serious doubt about the validity of any inferences that might be drawn from them.

9.0 Claims of Traffic Loss by Compass Lexecon Are Not Supported by Empirical Evidence; Relatively Larger Growth by the Gulf Carriers is Explained by Comparative Service Analysis

The claim of “lost traffic” by the Legacy Carriers and JV Partners is not based on any empirical evidence or analysis that supports the theory that the mere “presence” of a Gulf Carrier in a city-pair market (however defined) diverts traffic that would otherwise use Legacy Carrier/JV Partner services. This claim is based entirely on a regression analysis that is severely flawed (see Section 5.0 and elsewhere). Contrary to claims about losing traffic to Gulf Carriers, the Legacy Carriers and their JV Partners actually gained 130,550 bookings between the United States and the Indian Subcontinent, Africa and ASEAN regions from 2010 to 2014 (Exhibit 11, Part A).³⁸ The Gulf Carriers gained considerably more bookings on these routes during the same time period, but that was market growth and it did not involve diversion from the Legacy Carriers and their JV Partners (Exhibit 11, Part A).³⁹ The reason the Gulf Carriers’ bookings grew significantly is that they offered services at a higher level of quality than those provided by the Legacy Carriers and their JV Partners, in particular one-stop, online connections through a convenient hub. The relationship between demand and quality of service in the key market regions is explained below.

The underlying CL thesis for traffic loss has no basis, and it is contradicted by analysis of service levels, among other factors. CL fails to provide evidence of a single city-pair where a Gulf Carrier actually gained traffic “at the expense of other carriers” (CL May Report, page 9) or diverted passengers based solely on their presence. Quality of service has an enormous impact on market demand, especially where there is limited U.S. nonstop capacity. Quality of service differences⁴⁰ between carriers have significant impact on consumer choice behavior and consumer benefits.

9.1 Compass Lexecon Failed to Relate Traffic Changes to Service Quality

³⁸ Note that for the most recent six year period (YE Q1, 2010 to YE Q1, 2015) the increase in Legacy Carrier/JV Partner bookings was 266,000 (Chart 3, Section 4.1).

³⁹ See also Section 6.0 above.

⁴⁰ In this section “quality of service” refers to whether an itinerary is nonstop, online connecting (same airline with one or more segments), or interline (multiple segments that require connections(s) between two or more different airlines). As discussed, there are some variations in the value of interline connecting services depending upon whether the participating airlines are alliance or JV Partners.

A major omission in the Compass Lexecon reports is the failure to consider that the most obvious reason that any new competitor gains market share is by providing an innovative and superior product. Compass Lexecon based its entire theory on the Brueckner et al. regressions that demonstrate that availability of improved flight connectivity (either through ATI agreements or preferably through *online routings*) is valued by air passengers (see Appendix A), but CL failed to consider service effects in its traffic analysis (and misrepresented those effects in the fare regressions). Not only was quality of service ignored as a factor in the traffic regressions, but there is also no other analysis of service levels and quality other than unsupported allegations that Legacy Carriers were driven out of some U.S.-India non-stop markets, allegations that have been effectively rebutted.

Perhaps the most glaring omission in the Compass Lexecon reports (and the resulting public statements) is the total lack of any empirical evidence that U.S. airline traffic in markets served by the Gulf Carriers was affected by low pricing, overcapacity, or for any other competitive cause. Other than some anecdotal references to booking levels for a limited number of O&D markets that have no bearing on the issue at hand (e.g., U.S-Dubai), Compass Lexecon provides no traffic analysis and, in fact, provides no summary statistics indicating the size of markets affected, the level of “lost traffic”, lost revenues, lost profits, or any comparison that might reveal the reason for the traffic patterns. In fact, the success of the Gulf Carriers is easily explained by the superior service levels via their Gulf hubs compared to inferior service levels and product characteristics by the U.S. airlines and their partners, both of which have chosen to focus on U.S.-Europe O&D markets with high and growing yields and load factors.

It is notable that Compass Lexecon (or its client) decided to omit overcapacity and fare effects entirely from the CL May Report, raising the question whether even they believed that part of the theory to be credible. Under the guise of providing a primer on how air passenger markets operate, CL failed to mention that level and quality of service are key determinants of passenger choice behavior and the resultant market shares. In the April report, CL addressed fare effects, but did not consider service at all.⁴¹ Such an omission would never occur in the routine market analyses conducted by the airlines themselves, including the Legacy Carriers. It is

⁴¹ Despite having read and cited the Dresner study numerous times, CL failed to consider a key finding that fare and traffic levels should be considered jointly rather than separately in its regressions.

important to review the market forces that apply in all air passenger markets, including those analyzed by Compass Lexecon.

For any particular city-pair (particularly the long-range international markets of interest), a prospective passenger is faced with a variety of airline and routing options, each with distinct service, elapsed time, and cost characteristics. In the face of known demand and fleet/operating constraints, airlines, alone or in coordination with alliance/ATI partners, are also faced with a variety of choices for providing direct flights, pricing schedules, and arrival/departure timing. The airline's choices result in the various options available to passengers.

Ticket prices must be traded off against the level of service, which is characterized primarily by the number of connections required, combined with total flight and connection times, tempered by the probability of delays and cancelled flights. Connections between two unaffiliated airlines often require a transfer to another terminal at the connecting airport, possible baggage transfer issues, and re-screening annoyance. The desirability of a particular routing ranges from the highest service level, which is a direct non-stop flight, followed in order by direct multi-stop service, online (same airline) connection, and interline connections. The number of connections required is also critical, so that a 2-segment connection will be preferred to a 3-segment connection. The advent of code-sharing, alliances, and Joint Venture partnerships have created additional options within the "interline" category, with the highest level of cooperation typically preferred, so that intra-JV is followed by intra-alliance and then code-sharing. The relative value of these various service levels are reflected in the results of the Brueckner et al. study, which indicated the same order of preference relative to quantified fare impacts. While it is implied in the CL analysis that the fare effects shown are based on cost savings passed on to consumers, it is more reasonable to conclude that the reduction in fares is due to service level characteristics that are inferior. (E.g., new ATI routings would force down alliance, code-share and interline fares or make them noncompetitive at prior fare levels).

An important aspect of the key Gulf Carrier markets of interest here (U.S.-India Subcontinent, Africa, ASEAN, and Middle East) is the limited amount of non-stop service available. Therefore, it is not possible to understand how traffic routings changed over the period in which the Gulf Carrier networks were developing without examining the quality, availability, capacity, and costs of the various connecting options. The expanding networks have created, on a large number of routes, new cost- and time-efficient *online* services that are

superior to what is being offered by U.S. Legacy Carriers and their JV Partners or other non-Gulf airlines. The Gulf Carriers frequently provide the capacity and quality of service best suited to the needs of new passengers throughout the region and on routes to and from the United States. In the case of Emirates, passengers can fly one-stop from the United States to many India Subcontinent cities making a single online connection at a geographically convenient hub (Dubai) with excellent weather. This is clearly portrayed by the route map shown in Figure III-21 (page 115) of the June 29, 2015 Emirates Report.

An analysis of schedule changes reveals the Gulf Carriers have enjoyed strong growth in the U.S.-ISC markets from 2010 to 2014 because of their response to market-driven demand for online services throughout an expanding network of city-pairs. In contrast, the Legacy Carriers and their JV Partners have not responded to this market opportunity.

9.2 Gulf Carriers Have Met Rapid Growth in Demand for Online Service; Legacy Carriers and their JV Partners Have Chosen Not to Do So

A simple analysis of booking changes, classified by type of airline service and routing, provides a much better explanation for observed traffic patterns than that posited by the CL regression analysis. Campbell-Hill has grouped MIDT bookings for CY 2010 and CY 2014 by market region and categorized them by type of gateway carrier, the number of connections required, and quality of service (including non-stop, online connecting, JV/ATI interline and unaffiliated interline).⁴²

As shown in Chart 16, traffic between the United States and the India Subcontinent, ASEAN Countries, and Africa exhibited a profound shift toward online service, particularly 2-segment (i.e., one-stop) online service. Online bookings on these routes have grown by nearly 1.1 million, while interline bookings have stagnated. Two-segment online bookings have grown by 1.2 million. The Gulf Carriers have responded to this demand and helped to stimulate it by growing their network to provide expanded 2-segment service in more markets. Their online bookings to these regions have grown by 800,000, which is 88% of their total growth from 2010 to 2014. The Legacy Carriers and their JV Partners have experienced some growth in their online

⁴² Online service involves a single carrier for the entire itinerary while “JV/ATI interline” involve a single JV for the entire trip with a change in carrier within the JV Partnership. Interline includes intra-Alliance transfers and code-share routings not covered by ATI Joint Venture.

bookings to these regions, but their strategy of “capacity discipline” has hindered their ability to take advantage of these rapidly growing markets, particularly the U.S.-ISC market.

Chart 16

2010-2014 Net Change in Bookings (000)

U.S.-India Subcontinent, ASEAN, Africa

		Legacy/JV	Gulf Carriers	Other Carriers	Total
Online	Non-Stop	-65	0	-274	-339
	2-Segment	146	689	366	1201
	3-Segment	115	109	13	237
Total Online (1, 2, or 3 Segments)		196	798	105	1099
JV/ATI Interline*		236	0	0	236
Other Interline and 4-Segment		-301	114	-209	-396
Grand Total		131	912	-104	969

*JV/ATI Interline is travel involving a change of carrier within the Legacy Carriers and their JV Partners.

Source: MIDT data purchased from Travelport and Exhibit 12.

Chart 16 shows that Gulf Carriers offer a higher quality of service than the Legacy Carriers and their JV/Alliance Partners. This is especially true for one-stop⁴³ online service, and the Gulf Carriers provide this superior level of service to a much larger proportion of city-pairs than do the Legacy Carriers and their JV/Alliance Partners. Confronted with this superior Gulf Carrier service, the Legacy Carriers have not mounted a serious competitive response. They have continued to rely on inconvenient connecting itineraries through their JV Partners, thus presenting the market with a distinctly inferior product. They have not provided competitive offerings to capture more of the 2-segment online service that is clearly preferred by passengers.

9.3 Gulf Carriers’ Online Service Provides a Competitive Fare Effect That Benefits Consumers

As explained in Appendix A, interline service provided by carriers with ATI is associated with higher fares than online service, an effect that is seen in the Compass Lexicon fare

⁴³ Two segments.

regression model.⁴⁴ This results from the tendency of ATI carriers to restrict capacity to raise fares in the absence of superior competitive service. An online competitor without ATI is more efficient and has a superior product; it will provide whatever capacity the market demands at compensatory fare levels. Legacy Carriers and their JV Partners provide service that is inferior to online Gulf Carrier service. Gulf Carrier competition creates an environment where Legacy Carrier/JV Partner market power is mitigated, and in which their service must be priced at its true value to the consumer.

As discussed in Dresner et al.,⁴⁵ the main issue is one of consumer surplus versus producer surplus. Any policy that restricts capacity by limiting Gulf Carrier operations will harm consumers by denying them access to more convenient service in many markets, while keeping fares artificially high.

Restriction of market entry, which the Legacy Carriers are seeking, would permit incumbent airlines to exact high fares by restricting the capacity of a superior service. Such policies harm consumers significantly by denying them the choice of convenient service to more destinations and by denying them access to more competitive fares. It can be expected that restriction of markets will lead to suboptimal product offerings, leading in turn to declines in visitor travel to the United States and declines in economic benefits (including jobs and income) for the United States.

⁴⁴ CL April Report, page 44.

⁴⁵ Dresner et al., “The impact of Gulf carrier competition on U.S. airlines.” *Transportation Research A* 79, 31 (2015), page 40.

10.0 Other Unsubstantiated Claims by Compass Lexecon and the Legacy Carriers

Throughout the CL reports there are a number of other claims or assertions that are unproven, undocumented and unsubstantiated. In this section Campbell-Hill comments on four of the more serious offenses.

10.1 Gulf Carrier's Profit Objective

In their April Report, Compass Lexecon repeatedly makes the bold assertion that “profitability is not the primary objective of the Gulf Carriers.”⁴⁶ The authors present not a shred of evidence to prove the truth of this statement. In the case of Emirates neither the Legacy Carriers nor their consultant, Compass Lexecon, have shown any evidence that Emirates has incurred losses or that it has earned unusually low returns on equity or on total investment.

The fact is that Emirates has:⁴⁷

- (a) been profitable for each of the past 27 consecutive years;⁴⁸
- (b) paid dividends to its shareholders in excess of \$3 billion; and
- (c) paid bonuses to its employees totaling almost \$1 billion.

If Emirates was nothing more than a social instrument of the Dubai Government, financial losses and/or large continuing subsidies would be expected. This is not the case, as Emirates has demonstrated in great detail in its June 29 Report.

Compass Lexecon makes another fundamental error. U.S. carriers do not make capacity decisions “solely on the basis of whether they expect to earn a return sufficient to cover costs (including the cost of capital).”⁴⁹ In the real world capacity is added or subtracted segment by segment. Airlines do not first decide how much system capacity they will add or subtract, and then allocate it by segment or by market. Detailed network planning is a bottom-up endeavor. And the key objective function in network planning models is contribution to system (network) profitability. In periods of scarce fleet capacity many route opportunities may model-out with contributions above some target or hurdle rate, but another opportunity may exhibit even greater

⁴⁶ See, for example, pages 1 and 6 of the CL April Report.

⁴⁷ See Emirates June 29 Report, page i and Emirates press release dated June 30, 2015.

⁴⁸ None of the Legacy Carriers, nor any members of their string of merger partners, can claim such a record. Among U.S. carriers only Southwest Airlines has a comparable unblemished profit record (42 straight years).

⁴⁹ CL April Report, page 1.

contribution potential and thus gets the airplane. Route or segment profitability is not viewed in isolation from the network effects. Therefore, it is frequently the case that a segment may be initiated, or receive additional capacity, even though its expected return on invested capital (ROIC) may be below the airlines' weighted average cost of capital (WACC), but its projected network contribution is compelling. The network planning and financial analysis models used by Emirates are very similar in design, and its capacity decision-making follows financially-oriented methods and objectives.

10.2 Reduction of U.S. Legacy Carrier Services Between the U.S. and India

At page 2 of the CL April Report, the authors make the naked claim that “subsidized capacity growth by Gulf Carriers has resulted in all but one U.S. carrier eliminating nonstop service to this key international destination [India].” (Emphasis supplied) This argument is developed further at pages 9-11, but nowhere does CL provide a shred of evidence that it was the Gulf Carriers that caused the cessation of service on two routes: Atlanta – Mumbai (Delta) and Chicago – New Delhi (American). While CL claims that these two routes were dropped because the Gulf Carriers' capacity expansion to the U.S. “severely eroded the profitability for U.S. carriers of providing nonstop service to India,”⁵⁰ CL provided no evidence that U.S. carrier profitability was eroded. Nor do they provide any evidence that the two routes at issue were ever profitable.

Compass Lexecon prepared no analysis of cause and effect. Some of the issues that require investigation are: (1) what was the competitive impact of Air India (service, capacity and fares), a third/fourth freedom carrier, compared to the quantifiable impact of Emirates and the Gulf Carriers; and (2) did alternative uses of the Delta and American aircraft produce higher returns, given the airlines' ability to serve the same U.S. – India markets under their metal neutral ATI agreements with their JV Partners? It is quite possible that the decision to exit by Delta and American had little or nothing to do with competition from Emirates or other Gulf Carriers. If the U.S. carriers can earn essentially the same profit allowing their JV Partners to fly the Europe – India segment, and they are operating flights to the JV Partners' European hubs in any event, the financial decision to suspend the nonstop flights may have had everything to do

⁵⁰ CL April Report, at page 10.

with the freedoms accorded by the ATI agreements, and little or nothing to do with competition from the Gulf Carriers. Such decisions within the confines of the Partnership may have little to do with the competitive landscape on a particular segment. In fact, Delta's decision to discontinue Atlanta – Mumbai truly had nothing to do with Gulf Carrier competition as none of those airlines serves Atlanta.

10.3 Legacy Carrier Expansion Plans

On page 3 of the CL April Report it is alleged that “subsidized Gulf carrier expansion has also severely undermined U.S. carriers’ ability to expand their nonstop service from the United States to destinations in India and other regions” (emphasis supplied). Neither Compass Lexecon nor the Legacy Carriers have presented any evidence of constrained or cancelled expansion plans anywhere in the World. There is simply no evidentiary basis for CL’s allegation. Actually the truth came out at Delta’s second quarter earnings call with Wall Street analysts on July 15, 2015. Mr. Glen Hauenstein, Executive Vice President and Chief Revenue Officer, referred to Delta’s insignificant participation in the U.S. – India Subcontinent market as a “missed opportunity.”

10.4 Small Community Service

Both Compass Lexecon and the Legacy Carriers have claimed that domestic service between the U.S. hubs and small communities is jeopardized by the Gulf Carriers’ international service. They provide no evidence to support this allegation. In all of the documents available to Campbell-Hill there is no evidence to remotely suggest that any reduction in small community service by Delta, American or United is a consequence of long haul Gulf services operated by Emirates or any other Gulf Carrier.

In contrast to this lack of evidence suggesting any loss of service to small communities, Emirates’ June 29 Report presents compelling statistics on the hundreds of thousands of new passengers Emirates has brought to/from the U.S. and who use JetBlue, Alaska, the Legacy Carriers and other U.S. airlines for their journey beyond or behind the U.S. gateway. This amount of feed traffic (775,000 passengers over a five-year period) is the equivalent of at least 10 round trips per day, every day of the year.

BRUECKNER ET AL. DEMONSTRATE THAT ONLINE SERVICE PROVIDES GREATER FARE REDUCTION THAN ATI INTERLOCKING AGREEMENTS

This discussion begins by examining the paper of Brueckner, Lee, and Singer (“Brueckner et al.”) in the *Journal of Competition Law and Economics*.¹ This article forms the foundation for the methodology in CL’s regression analysis for both traffic and fare impacts. The research was funded by United Airlines, and so it cannot be considered a completely objective analysis. Nevertheless, some of its conclusions are relevant to issues that need to be stressed when considering the effect of Gulf Carriers on competition in international markets. Indeed, the title of the article is “Alliances, Code-sharing, Antitrust Immunity, and International Airfares: Do Previous Patterns Persist?” The purpose of the article was to examine the effect of cooperation (and in particular antitrust immunity) on airfares, and to demonstrate that cooperation reduces fares. The following primary conclusion appears in the abstract:

“The results, which show that code-sharing, alliance service, and antitrust immunity each separately reduces fares below the traditional interline level, overturn contrary and counterintuitive findings in recent U.S. Department of Justice (DOJ) studies.”

In the body of the study a regression analysis was developed to determine the effect on fares of various levels of cooperation. In particular, Brueckner et al. estimated coefficients for dummy variables representing Code-sharing, Alliances, and Antitrust Immunity (ATI), and the negative coefficients that were obtained were interpreted to mean that each incremental level of cooperation had the effect of lowering fares in comparison to “traditional interline service,” i.e. service provided by connecting flights from two non-cooperating airlines. The finding of lower fares was then used to deflect a decision by the Department of Justice to revisit the issue of antitrust immunity.

Brueckner et al. also estimated a coefficient for online service, i.e. service provided by a single airline. This coefficient was substantial and negative: -0.144 (see Table 2 in the article), which implies a 14.4% reduction in fare when a single carrier is providing services over all segments of the entire itinerary. By comparison, the coefficients for Code-sharing, Alliance, and ATI, when combined, yield a total effect of -0.112, which implies a reduction of fare of 11.2% for the fullest level of airline cooperation (ATI). Thus Brueckner et al. estimate that average

¹ Vol. 7, p573, 2011. Lee is an Executive Vice President at Compass-Lexecon.

fares for online service are 3.2% lower than those involving partners with ATI.^{2,3} The baseline for comparison in both cases was “traditional interline service.” Although the article focused on the question of the reduction associated with antitrust immunity, the result for online service is very much relevant to the question of Gulf Carrier entry into various U.S. international markets. That is because in many instances Gulf Carriers provide online service (along with the attendant efficiencies and benefits to consumers) in markets where Legacy Carriers and their JV Partners provide only co-managed interline service. Furthermore, as explained below, even in markets where Legacy Carriers and their JV Partners replicate online service (for example when non-stop service is provided) fares are elevated in comparison to what is possible when a single carrier without ATI competes with them on an equal footing. This is most evident in the case of the nonstop New York-Milan market. Exhibit 7 of the CL April Report shows some decline in fares after Gulf Carrier entry into this market as a fifth freedom service.

Gulf Carriers’ Online Service Lessens the Anti-Competitive Effect of ATI Collaboration and Provides Significant Benefits to the Consumer

The observed fare reduction in markets where Gulf Carriers have entered is a natural result of two effects. First, any entry of a new competitor will have a tendency to decrease the market power of existing firms, and hence push pricing further toward levels that would be obtained with perfect competition. But more importantly, when a competitor without ATI enters a market dominated by cartels with ATI protection, the power of the cartels to restrict supply and keep fares high is weakened. The result is evident, for example, in the New York-Milan market. That market amounts to a near-perfect economic experiment that has isolated the effect of ATI in a market where online (in fact nonstop) service is available. Thus the relevant comparison is not ATI versus interline (the subject of Brueckner et al.) but ATI versus online (wherein Brueckner

² In more detail, Brueckner et al. estimate the following reduction in average fares for US-World markets: 4.9% ATI, 2.7% alliance, 3.6% code-share, for a total of 11.2%. Compared to 14.4% online, the difference is 3.2%. A similar reduction is found in their US-transatlantic figures: 4.4% ATI, 7.6% alliance, 3.9% code-share, total 15.9%. Compared to 18.9% online, the difference is 3.0%.

³ Similar figures can be derived from the CL April Report. The regression methodology was based on Brueckner et al., but there were also some differences. In particular, Code-share was taken as the default (instead of interline) and all fare reductions were measured relative to code-share itineraries. For Gulf Carrier US gateway itineraries, they found a reduction of 7.5% for online, versus 5.5% for the combination of alliance and ATI: a difference of 2.0%.

et al.'s own data confirm that online service offers greater fare benefits than those provided by ATI).

From an economic perspective, the value of ATI for consumers depends on the relative impact of two countervailing effects: (1) cooperation eliminates double markup⁴ and so it can have a price-lowering effect; and (2) ATI reduces the number of competitors and reduces the tendency of those competitors to invest in new services and products, because cooperation of large firms is less nimble, and because profits are shared between all participants, thus reducing the incentive to compete for new business based on product characteristics. Thus, ATI encourages a risk-averse business model with a preference for preserving the status quo over innovation and the search for new market opportunities. Elementary economic theory implies that when few competitors are present in a market, they will tend to restrict the supply in order to drive up prices and increase their profits. This is exactly what airline industry analysts say has been happening in recent years.⁵

These two effects are discussed in the following passage from Brueckner et al.:⁶

“the impact of alliances on airfares is potentially complex, with both positive and negative elements. On the one hand, alliances can lead to lower fares for interline passengers, who must fly on two airlines to make their trip. When the two airlines are nonaligned, the fare-setting process for such trips involves double marginalization, with each carrier introducing a separate markup over cost in determining the overall fare. By contrast, when the two airlines are allied and enjoy ATI, each takes account of the fact that its own markup hurts the other carrier. While a higher markup may raise the carrier’s own profit, the resulting decline in traffic (a consequence of the higher fare) reduces profit for the partner airline. When maximization of total profit is the goal, both airlines limit their markups, which leads to a lower overall fare and higher interline traffic.

Another type of passenger, who flies between the international gateway cities of the alliance partners, could in principle experience a different outcome. On such gateway-to-gateway routes, the alliance partners typically provide overlapping service, with each separately serving the route. Since ATI gives the airlines license for full cooperation, they could -- in theory -- choose to reduce the total number of seats offered to gateway-to-gateway passengers and charge a higher fare. This effect could arise even if total capacity on the hub-to-hub route expands as a result of increased interline traffic, consisting of passengers traveling between endpoints that

⁴ Also called “double marginalization.”

⁵ “For U.S. airlines, yield, not fares, dictates profit,” Travel Weekly, May 3, 2015, <http://www.travelweekly.com/Travel-News/Airline-News/For-US-airlines-yield-not-fares-dictates-profit>.

⁶ Brueckner et al., page 574.

are respectively behind and beyond the carriers' hub gateways. This potential anticompetitive effect has been a concern in a number of alliance cases, including the AA/BA/IB case, and it has the potential to work in the opposite direction of the beneficial impact on interline passengers."

Although Brueckner et al. conclude that the decline in fares from (1) *elimination of double marginalization* outweighs the increase in fares from (2) *anticompetitive effects*, this is only in the context of interline alternatives to ATI. It has not been demonstrated (and in fact is obviously false) that ATI has led to lower fares than online service in a competitive environment. When making a comparison with online service, (1) is no longer relevant (because online services by definition do not involve double marginalization). Hence only (2) is relevant, and then it is obvious that a reduction in competition will lead to increases in fares and reduced capacity.

With Gulf Carrier presence in a number of markets, there is a modest competitive fare effect as ATI-controlled fares are forced to return to levels reflecting more efficient online services provided by competing carriers that are not protected by ATI. Indeed, CL's own regressions demonstrate that fares are modestly lower (4.3%) when a Gulf Carrier is present in a market.⁷ The decrease is not so large as to imperil the profitability of operations by Legacy Carriers and their JV

Furthermore, when a Gulf Carrier, Emirates, entered a fifth freedom market (New York-Milan), the resulting competitive fare effect has exposed a key weakness of the oligopoly model currently driving the U.S.-Europe market. For nonstop service, no antitrust immunity is needed to avoid the double marginalization problem, for the simple reason that only one airline is needed to provide nonstop service. Hence, as for any online travel, only effect (2) is relevant, and therefore ATI leads inevitably to higher fares for nonstop services. The classic economic arguments in favor of mergers to promote efficiency and avoid the problem of double marginalization become irrelevant in the context of vertical integration.⁸ It is also far from clear how valid they are for horizontal interlocking agreements as in the case of airline ATI partnerships. Today's passenger can match up segments with ease using online search engines

⁷ CL April Report, Exhibit 18.

⁸ See, for example, http://njsanders.people.wm.edu/121B/Double_Marginalization_Handout.pdf

such as Expedia; he need not rely on one carrier to serve as a middleman in procuring ongoing segments from another carrier.

It is inevitable that firms will seek regulatory approval to cooperate with competitors and that they will try to limit new entrant participation in their markets. However, the harm to the consumer in terms of higher prices and reduced choices can be substantial. Dresner et al. phrase this as an issue of trade-off between producer surplus and consumer surplus: “The net gain to the U.S. can be determined by the net of the consumer surplus gain and the producer surplus loss. Although it is not clear whether U.S. society is better or worse off following the entry of the Gulf carriers, their entry has likely resulted in a more competitive market-based equilibrium that indicates, on a global basis, a net gain to society.”⁹

Dresner et al. go on to compare the situation with Gulf Carrier expansion to the one experienced during airline deregulation during the late 1970’s. Few would dispute the fact that opening up markets to competition has produced enormous benefits to consumers, not just from lower fares, but also from the numerous indirect benefits that follow from open access to more convenient and more nonstop commercial air services at much lower prices (in constant dollars).

⁹ Dresner et al., “The impact of Gulf carrier competition on U.S. airlines.” *Transportation Research A* 79, 31 (2015), page 40.

DRESNER ET AL. FOUND THE EFFECTS OF GULF CARRIER COMPETITION TO BE SMALL

Dresner et al.¹ (2015) provide an independent analysis of the effect of Gulf Carrier competition on U.S. airline fares and traffic. This is a serious academic study by five professors at prominent business schools. As the study was not supported by any Gulf Carrier, or any other industry representative, it can be trusted as a source of impartial analysis. The main conclusion of the study is that the effects of Gulf Carrier competition “are small but statistically significant; that is a 1% growth in total Gulf carrier traffic to or from the U.S. is associated with a less than 0.1% drop in U.S. carriers’ international passenger traffic and a less than 0.1% decrease in air fares.”²

It is important to point out that some decrease in Legacy Carrier traffic and fares is to be expected any time a competitor expands with superior service. Indeed, Open Skies Agreements were put in place for the purpose of encouraging competition, with an expectation that consumers would benefit from greater choice, better service, and lower fares. However, the Dresner study shows that the impact of Gulf Carrier competition on Legacy Carriers is not very large, and that it is not significant enough to endanger the commercial viability of competing Legacy Carrier routes.

From the consumer perspective, greater choice, better service, and lower fares are a very good outcome. Furthermore, it should be clear that any restrictions on Gulf Carrier access to markets in the U.S. would penalize and inconvenience many more passengers than the number saved or protected for Legacy Carriers and their JV Partners.

Use of the Dresner Study by Compass-Lexecon and the Legacy Carriers Is Misleading

The abovementioned conclusions by Dresner et al. contradict the Legacy Carrier claims of harm resulting from Gulf Carrier presence in their markets. Compass Lexecon accordingly attempted to rebut Dresner et al. in its April and May reports.³ Each of their criticisms is examined in turn.

¹ Dresner et al., “The impact of Gulf carrier competition on U.S. airlines.” *Transportation Research A79*, 31 (2015).

² Dresner et al., page 40.

³ CL April Report, pages 23-26; CL May Report, pages 25-26.

First, CL criticizes Dresner et al. because their study “only captures passenger counts at the flight segment level, not the O&D level,”⁴ and their exclusive use of the DOT’s T-100 database. However, this is disingenuous because the comment applies only to Section 2 of Dresner et al.: “Effects of Gulf carrier entry on aggregate passenger traffic between the U.S. and the Middle East,” the purpose of which is to describe aggregate traffic to the Middle East. The conclusion that Gulf Carriers have a “small but statistically significant effect” on Legacy Carrier traffic and fares derives from Section 3 of Dresner et al. In this section they use DOT’s DB1B database to analyze markets at the airport-to-airport level.

Second, CL cites the following quote from Dresner et al.: “the growth in the U.S.-Middle East market may come *at the expense of traffic losses in (broadly) adjacent international route markets,*” (emphasis supplied by CL). CL takes this quote out of context. The full quote is as follows: “However, the growth in the U.S.–Middle East market may come at the expense of traffic losses in (broadly) adjacent international route markets. In addition, Gulf carrier competition may affect not only traffic volumes but also air fares. We further explore these possibilities in the next section.” This is merely a statement connecting Section 2 with Section 3. Section 3 contains the analysis used to answer the question posed in the quote. The quote is not a statement of their conclusions on Gulf Carrier effects. Those conclusions appear in Section 4 as follows: “*The empirical results suggest that these effects are small but statistically significant; that is a 1% growth in total Gulf carrier traffic to or from the U.S. is associated with a less than 0.1% drop in U.S. carriers’ international passenger traffic and a less than 0.1% decrease in air fares. From a consumer perspective, the latter is, of course, a desirable outcome of increased competition in international aviation markets.*” (Emphasis supplied). Campbell-Hill expects that U.S. policy-makers would agree that decreases in air fares are desirable.

The third point relates to the extrapolation of the findings of Dresner et al. Compass Lexicon states that if 1% growth in Gulf Carrier traffic translates to a 0.09% drop in fares and traffic, then 100% growth in Gulf Carrier traffic translates to a 9% drop in fares and traffic. The design of the regression models – in particular the use of logarithmic transformations of independent and dependent variables – creates an environment in which every trend, no matter how small, can be mathematically extrapolated to an alarming degree, because every effect

⁴ CL May Report, page 26.

involves exponential growth or decline. Logarithmic transformations are useful for translating cross-sectional models into statements about percentage change. However, any attempt to extrapolate such trends beyond the domain supported by the data is not justified. Exponential trends can produce dramatic effects if continued to extremes, but “real life” always intervenes before such extremes are reached. History is rife with examples of alarmist treatises based on exponential trends. The nature of competition in business is such that firms inevitably impact each other as they compete for customers. But diversity in markets goes hand-in-hand with diversity of firms attempting to serve those markets. As carriers compete for traffic to the Indian Subcontinent or to other regions, one should expect that some customers will find Gulf Carrier service more convenient, and others will find the service of Legacy Carriers and their JV Partners more convenient. The balance will be determined by the extent to which each group of carriers is able to offer flights that will attract customers. (The issue of consumer choice is discussed at greater length in Section 9.0

In the final analysis, it is inevitable that Gulf Carrier presence in markets will impact other market participants to some degree. The Dresner study confirms this, but finds the effects on U.S. carriers to be small. To find otherwise, one would need to take their statements out of context or extrapolate their regression results to unreasonable extremes.

American, Delta and United Load Factors by International Division

CY 2013			
<u>Carrier</u>	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	82.8 %	80.3 %	82.1 %
DL	85.3	83.7	84.4
UA	81.3	80.9	83.2
AA+DL+UA	83.2 %	81.2 %	83.5 %

CY 2014			
<u>Carrier</u>	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	78.0 %	77.2 %	81.0 %
DL	84.5	83.0	83.6
UA	80.5	82.4	81.5
AA+DL+UA	81.2 %	79.9 %	82.2 %

Note: Load factor calculated as RPMs divided by ASMs. AA includes American and US Airways.
 Source: U.S. DOT, Form 41 data, via Diio.

Legacy Carrier Load Factors by Transatlantic Route to and from JV Partner Hubs

1. Delta (AMS, CDG, FCO, LHR, MXP)

<u>Carrier</u>	<u>Route</u>	<u>CY 2013</u>	<u>CY 2014</u>	<u>Carrier</u>	<u>Route</u>	<u>CY 2013</u>	<u>CY 2014</u>
DL	ATL-AMS	91.4 %	92.9 %	DL	ATL-FCO	91.4 %	91.6 %
DL	BOS-AMS	83.7	84.3	DL	DTW-FCO	90.8	91.1
DL	DTW-AMS	85.7	84.9	DL	JFK-FCO	91.1	89.4
DL	EWR-AMS	86.7	89.2	DL	ATL-LHR	82.2	78.5
DL	JFK-AMS	87.7	87.1	DL	BOS-LHR	69.3	66.6
DL	MSP-AMS	88.3	89.3	DL	DTW-LHR	78.5	74.8
DL	PDX-AMS	84.8	85.1	DL	JFK-LHR	74.2	71.6
DL	SEA-AMS	86.6	87.8	DL	LAX-LHR	-	61.5
DL	ATL-CDG	84.9	87.2	DL	MSP-LHR	82.4	76.3
DL	BOS-CDG	85.4	85.9	DL	SEA-LHR	-	69.4
DL	CVG-CDG	72.0	76.6	DL	ATL-MXP	90.5	85.2
DL	DTW-CDG	82.0	84.5	DL	JFK-MXP	84.9	88.3
DL	EWR-CDG	85.0	83.9				
DL	JFK-CDG	86.5	87.6				
DL	MSP-CDG	84.8	82.5				
DL	ORD-CDG	68.8	69.5				
DL	PHL-CDG	79.0	76.5				
DL	PIT-CDG	77.6	78.3				
DL	SEA-CDG	79.5	85.1				
DL	SLC-CDG	88.1	90.9				
Total						84.3 %	83.8 %

Note: Load factor calculated as RPMs divided by ASMs, roundtrip.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier Load Factors by Transatlantic Route to and from JV Partner Hubs

2. United (BRU, FRA, MUC, ZRH)

<u>Carrier</u>	<u>Route</u>	<u>CY 2013</u>	<u>CY 2014</u>
UA	EWR-BRU	83.7 %	84.7 %
UA	IAD-BRU	82.6	82.2
UA	ORD-BRU	80.3	77.5
UA	EWR-FRA	78.8	85.8
UA	IAD-FRA	80.2	80.3
UA	IAH-FRA	82.1	79.2
UA	ORD-FRA	78.4	76.8
UA	SFO-FRA	86.6	88.8
UA	EWR-MUC	86.8	84.8
UA	IAD-MUC	85.0	82.7
UA	IAH-MUC	-	78.6
UA	ORD-MUC	86.0	84.4
UA	EWR-ZRH	76.3	75.9
UA	IAD-ZRH	76.4	76.6
Total		82.0 %	81.8 %

Note: Load factor calculated as RPMs divided by ASMs, roundtrip.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier Load Factors by Transatlantic Route to and from JV Partner Hubs

3. American (HEL, LHR, MAD)

<u>Carrier</u>	<u>Route</u>	<u>CY 2013</u>	<u>CY 2014</u>
AA	ORD-HEL ^{1/}	93.3 %	90.7 %
AA	BOS-LHR	71.1	-
AA	CLT-LHR	81.6	70.0
AA	DFW-LHR	86.7	79.7
AA	JFK-LHR	71.0	65.6
AA	LAX-LHR	86.5	83.0
AA	MIA-LHR	87.3	81.7
AA	ORD-LHR	81.1	75.2
AA	PHL-LHR	73.4	67.7
AA	RDU-LHR	78.6	76.3
AA	CLT-MAD	82.0	76.7
AA	DFW-MAD	87.7	85.8
AA	JFK-MAD	88.4	87.0
AA	MIA-MAD	88.6	89.1
AA	PHL-MAD	76.1	68.9
Total		81.4 %	76.6 %

1/ Effective Summer 2015, AA transferred its ORD-HEL route to Finnair and discontinued online service at HEL.
 Note: Load factor calculated as RPMs divided by ASMs, roundtrip. AA includes American and US Airways.
 Source: U.S. DOT, T-100 data, via Diio.

American, Delta and United Load Factors on Transatlantic Routes to and from JV Partner Hubs

<u>Carrier</u>	<u>Routes</u>	<u>CY 2013</u>	<u>CY 2014</u>
AA	All	81.4 %	76.6 %
DL	All	84.3	83.8
UA	All	82.0	81.8
<hr/>			
AA+DL+UA	All	82.9 %	81.3 %

<u>Carrier</u>	<u>Routes</u>	<u>CY 2013</u>	<u>CY 2014</u>
AA	LHR	80.5 %	75.2 %
DL	LHR	78.1	73.9
<hr/>			
AA+DL	LHR	79.8 %	74.8 %

Note: Load factor calculated as RPMs divided by ASMs, roundtrip. AA includes American and US Airways.
Source: U.S. DOT, T-100 data, via Diio.

History of Emirates Average Load Factors in Relevant Markets

<u>Year</u>	<u>U.S.-Dubai</u>	<u>Dubai-Indian Subcontinent</u>	<u>Dubai-ASEAN Countries</u>	<u>Dubai-Africa</u>	<u>Dubai-Middle East</u>
2013	83 %	80 %	80 %	78 %	71 %
2014	82	80	78	78	74

Source: Emirates company records.

Legacy Carrier and JV Partners Annual Seats on Transatlantic Routes to and from JV Partner Hubs

A. U.S. Legacy Carrier^{1/}

<u>Carrier</u>	<u>CY 2010</u>	<u>CY 2011</u>	<u>CY 2012</u>	<u>CY 2013</u>	<u>CY 2014</u>	<u>2014 vs. 2010</u>	<u>2014 vs. 2013</u>
Delta	5,046.0	5,944.0	5,939.0	6,367.5	6,580.7	30.4%	3.3%
United	2,746.0	2,896.6	2,970.8	2,860.2	2,970.0	8.2%	3.8%
American	3,443.1	3,627.9	3,680.8	3,674.7	3,771.2	9.5%	2.6%
Total	11,235.1	12,468.5	12,590.7	12,902.4	13,322.0	18.6%	3.3%

B. U.S. Legacy Carrier Plus JV Partners^{2/}

<u>Carrier</u>	<u>CY 2010</u>	<u>CY 2011</u>	<u>CY 2012</u>	<u>CY 2013</u>	<u>CY 2014</u>	<u>2014 vs. 2010</u>	<u>2014 vs. 2013</u>
Delta	14,227.5	15,595.4	15,235.0	15,652.3	16,029.4	12.7%	2.4%
United	9,153.0	9,931.0	9,897.5	10,226.6	10,592.4	15.7%	3.6%
American	10,941.0	12,018.4	12,333.8	12,259.1	12,891.4	17.8%	5.2%
Total	34,321.6	37,544.9	37,466.3	38,138.0	39,513.1	15.1%	3.6%

1/ From Exhibit 6, pages 1-3.

2/ From Exhibit 6, pages 4-6.

Note: Total annual seats in thousands, sum of both directions.

Source: U.S. DOT, T-100 data, via Diio, and Exhibit 6.

Legacy Carrier Annual Seats by Transatlantic Route to and from JV Partner Hubs

1. Delta (AMS, CDG, FCO, LHR, MXP)

Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013	Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013
ATL-AMS	219.6	278.8	368.1	449.5	456.8	108.0%	1.6%	ATL-FCO	192.1	169.8	198.3	189.7	179.9	(6.3%)	(5.2%)
BOS-AMS	246.7	286.2	294.5	312.5	294.9	19.6%	(5.6%)	DTW-FCO	53.6	52.4	57.8	54.4	63.5	18.5%	16.7%
DTW-AMS	725.9	707.8	716.5	735.8	709.6	(2.2%)	(3.6%)	JFK-FCO	211.7	188.6	165.2	130.7	139.9	(33.9%)	7.0%
EWR-AMS	142.6	148.0	132.1	135.8	136.6	(4.2%)	0.6%	ATL-LHR	187.9	258.5	350.7	464.8	476.7	153.7%	2.6%
JFK-AMS	127.8	158.4	171.3	229.5	183.5	43.5%	(20.1%)	BOS-LHR	-	217.6	168.3	154.7	157.1	-	1.5%
MEM-AMS	162.2	131.7	57.4	-	-	(100.0%)	-	DTW-LHR	170.0	237.3	213.6	175.4	238.8	40.5%	36.1%
MSP-AMS	529.4	511.4	479.5	509.7	496.8	(6.2%)	(2.5%)	JFK-LHR	393.4	523.5	521.2	508.6	485.1	23.3%	(4.6%)
PDX-AMS	122.5	145.6	152.0	171.5	167.0	36.3%	(2.6%)	LAX-LHR	-	-	-	-	26.6	-	-
SEA-AMS	238.1	268.7	262.6	308.4	279.2	17.3%	(9.5%)	MIA-LHR	-	132.9	49.6	-	-	-	-
ATL-CDG	351.0	304.5	202.9	241.8	265.5	(24.4%)	9.8%	MSP-LHR	150.7	176.2	176.2	175.1	169.9	12.8%	(2.9%)
BOS-CDG	-	77.2	-	48.2	77.5	-	60.9%	SEA-LHR	-	-	-	-	114.5	-	-
CVG-CDG	153.0	148.9	150.1	150.4	141.3	(7.6%)	(6.1%)	ATL-MXP	99.4	112.2	83.5	26.9	40.4	(59.4%)	50.0%
DTW-CDG	-	-	88.0	193.0	187.7	-	(2.7%)	JFK-MXP	157.4	173.9	175.4	178.0	196.2	24.7%	10.2%
EWR-CDG	-	3.3	-	81.5	131.1	-	60.9%								
JFK-CDG	-	87.5	153.9	166.4	176.7	-	6.2%	Total	5,046.0	5,944.0	5,939.0	6,367.5	6,580.7	30.4%	3.3%
MSP-CDG	115.6	151.1	168.9	176.3	185.6	60.5%	5.3%								
ORD-CDG	-	18.2	39.3	40.3	42.2	-	4.6%								
PHL-CDG	98.0	70.6	52.6	39.4	38.0	(61.2%)	(3.5%)								
PIT-CDG	70.2	69.2	44.9	40.6	40.4	(42.5%)	(0.5%)								
SEA-CDG	-	-	111.8	141.7	141.9	-	0.2%								
SLC-CDG	127.3	133.9	132.8	137.0	139.7	9.8%	1.9%								

Note: Total annual seats in thousands, sum of both directions.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier Annual Seats by Transatlantic Route to and from JV Partner Hubs

2. United (BRU, FRA, MUC, ZRH)

<u>Route</u>	<u>CY 2010</u>	<u>CY 2011</u>	<u>CY 2012</u>	<u>CY 2013</u>	<u>CY 2014</u>	<u>2014 vs. 2010</u>	<u>2014 vs. 2013</u>
EWR-BRU	157.7	187.6	185.9	174.2	185.4	17.6%	6.4%
IAD-BRU	149.5	185.7	190.7	185.3	188.5	26.1%	1.7%
ORD-BRU	97.4	108.2	125.8	161.3	159.5	63.8%	(1.1%)
EWR-FRA	189.2	197.9	308.7	276.3	189.0	(0.1%)	(31.6%)
IAD-FRA	492.5	502.2	481.4	380.4	379.0	(23.0%)	(0.4%)
IAH-FRA	173.2	176.1	168.9	179.0	159.5	(7.9%)	(10.9%)
ORD-FRA	397.6	398.7	386.6	375.7	413.1	3.9%	10.0%
SFO-FRA	373.5	378.3	376.6	395.7	391.2	4.8%	(1.1%)
EWR-MUC	98.6	144.4	144.5	153.6	164.6	66.9%	7.1%
IAD-MUC	182.9	183.7	184.0	163.0	171.1	(6.4%)	4.9%
IAH-MUC	-	-	-	-	118.3	-	-
ORD-MUC	182.0	180.5	165.5	137.0	149.3	(18.0%)	8.9%
EWR-ZRH	122.2	124.6	125.5	144.2	156.9	28.4%	8.8%
IAD-ZRH	129.7	128.8	126.6	134.3	144.7	11.5%	7.7%
Total	2,746.0	2,896.6	2,970.8	2,860.2	2,970.0	8.2%	3.8%

Note: Total annual seats in thousands, sum of both directions.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier Annual Seats by Transatlantic Route to and from JV Partner Hubs

3. American (HEL, LHR, MAD)

<u>Route</u>	<u>CY 2010</u>	<u>CY 2011</u>	<u>CY 2012</u>	<u>CY 2013</u>	<u>CY 2014</u>	<u>2014 vs. 2010</u>	<u>2014 vs. 2013</u>
ORD-HEL ^{1/}	-	78.3	58.9	31.9	28.4	-	(10.9%)
BOS-LHR	337.7	315.6	290.9	29.2	-	(100.0%)	(100.0%)
CLT-LHR	-	-	-	157.6	262.4	-	66.5%
DFW-LHR	403.0	427.4	484.4	507.5	545.9	35.5%	7.6%
JFK-LHR	788.2	715.7	828.4	802.3	684.8	(13.1%)	(14.6%)
LAX-LHR	172.9	178.3	175.1	204.6	224.1	29.6%	9.5%
MIA-LHR	216.6	233.2	243.5	327.3	416.5	92.3%	27.3%
ORD-LHR	594.8	598.1	587.0	585.1	573.5	(3.6%)	(2.0%)
PHL-LHR	179.9	179.9	198.9	205.8	207.4	15.3%	0.8%
RDU-LHR	151.7	155.4	155.5	151.6	151.5	(0.2%)	(0.1%)
CLT-MAD	-	56.7	42.0	50.0	40.8	-	(18.4%)
DFW-MAD	152.1	141.3	144.8	146.8	151.2	(0.6%)	3.0%
JFK-MAD	83.5	125.3	123.9	120.8	133.4	59.7%	10.4%
MIA-MAD	156.8	224.2	157.6	153.5	154.4	(1.5%)	0.6%
PHL-MAD	206.1	198.3	189.8	200.8	197.0	(4.4%)	(1.9%)
Total	3,443.1	3,627.9	3,680.8	3,674.7	3,771.2	9.5%	2.6%
AA+DL+UA	11,235.1	12,468.5	12,590.7	12,902.4	13,322.0	18.6%	3.3%

1/ Effective Summer 2015, AA transferred its ORD-HEL route to Finnair and discontinued online service at HEL.

Note: Total annual seats in thousands, sum of both directions.

Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier and JV Partners Annual Seats by Transatlantic Route to and from JV Partner Hubs

1. Delta + Air France / KLM / Alitalia / Virgin Atlantic (AMS, CDG, FCO, LHR, MXP)

Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013	Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013
ATL-AMS	384.9	503.7	571.8	639.7	680.6	76.8%	6.4%	ATL-FCO	192.1	169.8	198.3	189.7	179.9	(6.3%)	(5.2%)
BOS-AMS	246.7	286.2	294.5	312.5	294.9	19.6%	(5.6%)	BOS-FCO	165.2	155.3	131.0	121.5	134.3	(18.7%)	10.5%
DFW-AMS	110.1	94.5	60.0	56.6	58.8	(46.6%)	3.9%	DTW-FCO	53.6	52.4	57.8	54.4	63.5	18.5%	16.7%
DTW-AMS	725.9	707.8	716.5	735.8	709.6	(2.2%)	(3.6%)	EWR-FCO	144.2	136.6	87.0	-	-	(100.0%)	-
EWR-AMS	142.6	148.0	132.1	135.8	136.6	(4.2%)	0.6%	JFK-FCO	548.1	521.8	509.0	564.5	607.1	10.8%	7.5%
IAD-AMS	161.1	170.3	199.1	195.0	183.2	13.7%	(6.0%)	LAX-FCO	76.5	115.2	86.0	87.3	90.2	17.9%	3.4%
IAH-AMS	202.0	223.2	201.8	197.7	222.6	10.2%	12.6%	MIA-FCO	183.9	150.7	139.8	157.9	183.2	(0.4%)	16.0%
JFK-AMS	557.3	602.1	635.4	685.8	730.7	31.1%	6.5%	ORD-FCO	121.9	116.9	61.7	67.2	62.5	(48.8%)	(7.1%)
LAX-AMS	233.3	236.3	243.9	261.1	270.1	15.8%	3.5%	ATL-LHR	187.9	258.5	350.7	464.8	512.4	172.6%	10.2%
MEM-AMS	162.2	131.7	57.4	-	-	(100.0%)	-	BOS-LHR	211.9	413.8	366.9	338.0	340.3	60.6%	0.7%
MIA-AMS	-	91.8	27.4	-	-	-	-	DTW-LHR	170.0	237.3	213.6	175.4	238.8	40.5%	36.1%
MSP-AMS	529.4	511.4	479.5	509.7	496.8	(6.2%)	(2.5%)	EWR-LHR	403.2	438.9	457.5	454.2	402.1	(0.3%)	(11.5%)
ORD-AMS	160.1	174.1	168.4	171.0	169.1	5.6%	(1.1%)	IAD-LHR	191.0	188.5	196.2	184.3	179.7	(5.9%)	(2.5%)
PDX-AMS	122.5	145.6	152.0	171.5	167.0	36.3%	(2.6%)	JFK-LHR	1,082.0	1,195.0	1,216.6	1,353.8	1,379.9	27.5%	1.9%
SEA-AMS	238.1	268.7	262.6	308.4	279.2	17.3%	(9.5%)	LAX-LHR	415.6	445.6	426.1	413.3	413.7	(0.5%)	0.1%
SFO-AMS	231.0	238.1	240.5	232.5	233.3	1.0%	0.3%	MIA-LHR	232.3	363.7	302.7	243.0	239.7	3.2%	(1.3%)
ATL-CDG	596.4	595.1	602.0	683.9	741.2	24.3%	8.4%	MSP-LHR	150.7	176.2	176.2	175.1	169.9	12.8%	(2.9%)
BOS-CDG	329.5	424.3	326.7	346.7	368.8	11.9%	6.4%	ORD-LHR	52.0	77.4	90.1	78.6	79.0	51.8%	0.5%
CVG-CDG	153.0	148.9	150.1	150.4	141.3	(7.6%)	(6.1%)	SEA-LHR	-	-	-	-	114.5	-	-
DTW-CDG	169.6	185.7	274.1	373.5	360.8	112.8%	(3.4%)	SFO-LHR	249.7	252.9	301.9	259.8	263.1	5.4%	1.3%
EWR-CDG	145.5	136.0	22.5	81.5	131.1	(9.9%)	60.9%	ATL-MXP	99.4	112.2	83.5	26.9	40.4	(59.4%)	50.0%
IAD-CDG	395.8	416.4	428.7	401.2	375.0	(5.3%)	(6.5%)	JFK-MXP	257.6	277.2	289.0	320.7	368.9	43.2%	15.0%
IAH-CDG	200.8	193.1	186.2	200.5	190.8	(5.0%)	(4.8%)	MIA-MXP	40.9	65.8	66.0	18.7	-	(100.0%)	(100.0%)
JFK-CDG	1,031.1	1,122.8	1,140.3	1,196.9	1,183.3	14.8%	(1.1%)								
LAX-CDG	499.9	501.2	502.3	525.4	529.4	5.9%	0.8%								
MCO-CDG	-	84.5	80.3	-	-	-	-								
MIA-CDG	302.9	301.7	273.0	280.7	259.9	(14.2%)	(7.4%)								
MSP-CDG	115.6	151.1	168.9	228.3	233.7	102.2%	2.4%								
ORD-CDG	144.2	145.9	120.2	115.5	116.6	(19.2%)	0.9%								
PHL-CDG	98.0	70.6	52.6	39.4	38.0	(61.2%)	(3.5%)								
PIT-CDG	70.2	69.2	44.9	40.6	40.4	(42.5%)	(0.5%)								
SEA-CDG	133.6	143.6	134.3	141.7	141.9	6.3%	0.2%								
SFO-CDG	277.2	316.3	344.6	346.7	341.5	23.2%	(1.5%)								
SLC-CDG	127.3	133.9	132.8	137.0	139.7	9.8%	1.9%								
Total	14,227.5	15,595.4	15,235.0	15,652.3	16,029.4	12.7%	2.4%								

Note: Total annual seats in thousands, sum of both directions.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier and JV Partners Annual Seats by Transatlantic Route to and from JV Partner Hubs

2. United + Lufthansa / Swiss / Brussels Airlines (BRU, FRA, MUC, ZRH)

Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013	Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013
EWR-BRU	157.7	187.6	185.9	174.2	185.4	17.6%	6.4%	BOS-MUC	167.8	180.3	183.0	179.2	186.9	11.4%	4.3%
IAD-BRU	149.5	185.7	190.7	253.6	292.7	95.9%	15.4%	CLT-MUC	175.0	181.4	189.9	187.1	182.6	4.4%	(2.4%)
JFK-BRU	-	-	51.7	201.3	202.8	-	0.8%	EWR-MUC	302.6	358.4	356.3	368.8	379.8	25.5%	3.0%
ORD-BRU	97.4	108.2	125.8	161.3	159.5	63.8%	(1.1%)	IAD-MUC	295.4	318.7	320.3	283.7	286.2	(3.1%)	0.9%
ATL-FRA	162.1	167.0	165.3	171.9	161.5	(0.3%)	(6.0%)	IAH-MUC	-	-	-	-	118.3	-	-
BOS-FRA	289.3	303.3	326.5	300.9	343.8	18.8%	14.3%	JFK-MUC	183.0	189.3	145.5	155.5	149.1	(18.5%)	(4.1%)
DEN-FRA	215.0	233.4	224.4	232.4	232.4	8.1%	(0.0%)	LAX-MUC	191.1	195.4	188.1	186.8	183.9	(3.8%)	(1.5%)
DFW-FRA	172.8	142.2	149.4	147.4	157.6	(8.8%)	6.9%	MIA-MUC	56.8	36.4	-	-	10.9	(80.9%)	-
DTW-FRA	160.6	160.1	154.3	170.0	197.1	22.7%	15.9%	ORD-MUC	384.1	390.1	357.0	333.2	344.7	(10.3%)	3.4%
EWR-FRA	415.6	578.1	552.7	518.7	431.2	3.8%	(16.9%)	SFO-MUC	210.5	220.6	217.4	215.4	214.5	1.9%	(0.4%)
IAD-FRA	804.5	804.4	790.6	730.3	730.2	(9.2%)	(0.0%)	ANC-ZRH	-	3.7	-	-	-	-	-
IAH-FRA	410.5	414.3	462.4	550.9	516.2	25.7%	(6.3%)	BOS-ZRH	158.1	156.7	163.9	164.4	167.2	5.8%	1.7%
JFK-FRA	448.5	531.9	497.0	450.1	550.4	22.7%	22.3%	EWR-ZRH	132.8	158.0	249.2	295.5	301.1	126.8%	1.9%
LAX-FRA	342.9	332.5	329.4	368.4	389.3	13.5%	5.7%	IAD-ZRH	129.7	128.8	126.6	134.3	144.7	11.5%	7.7%
MCO-FRA	183.4	221.7	189.1	224.1	218.7	19.2%	(2.4%)	JFK-ZRH	317.0	333.4	336.1	253.7	199.2	(37.2%)	(21.5%)
MIA-FRA	240.0	314.9	299.8	315.2	376.7	57.0%	19.5%	LAX-ZRH	162.7	159.7	152.9	151.5	153.3	(5.8%)	1.2%
ORD-FRA	715.9	769.8	706.9	744.4	796.0	11.2%	6.9%	MIA-ZRH	155.5	165.3	177.9	216.2	221.0	42.2%	2.2%
PHL-FRA	162.8	137.2	122.7	147.2	172.0	5.7%	16.9%	ORD-ZRH	159.3	166.6	201.9	211.0	216.2	35.7%	2.5%
SEA-FRA	149.3	160.3	154.7	150.2	150.9	1.1%	0.5%	SFO-ZRH	80.5	151.8	140.2	157.2	150.9	87.4%	(4.0%)
SFO-FRA	613.3	683.7	712.0	720.6	717.4	17.0%	(0.4%)								
								Total	9,153.0	9,931.0	9,897.5	10,226.6	10,592.4	15.7%	3.6%

Note: Total annual seats in thousands, sum of both directions.
Source: U.S. DOT, T-100 data, via Diio.

Legacy Carrier and JV Partners Annual Seats by Transatlantic Route to and from JV Partner Hubs

3. American + British Airways / Iberia / Finnair (HEL, LHR, MAD)

Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013	Route	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	2014 vs. 2010	2014 vs. 2013
JFK-HEL	184.0	202.5	198.2	202.9	202.5	10.0%	(0.2%)	BOS-MAD	106.5	112.8	110.9	108.1	83.6	(21.5%)	(22.7%)
MIA-HEL	5.4	-	-	-	2.6	(52.2%)	-	CLT-MAD	-	56.7	42.0	50.0	40.8	-	(18.4%)
ORD-HEL	-	78.3	58.9	31.9	28.4	-	(10.9%)	DFW-MAD	152.1	141.3	144.8	146.8	151.2	(0.6%)	3.0%
ATL-LHR	156.3	162.1	161.4	161.5	167.7	7.3%	3.9%	IAD-MAD	48.8	-	-	-	-	(100.0%)	-
AUS-LHR	-	-	-	-	119.6	-	-	JFK-MAD	500.6	547.5	549.9	521.4	552.3	10.3%	5.9%
BOS-LHR	880.8	902.8	882.9	702.7	740.0	(16.0%)	5.3%	LAX-MAD	-	62.2	73.8	50.1	62.0	-	23.7%
BWI-LHR	122.1	136.8	135.5	134.9	136.1	11.5%	0.8%	MIA-MAD	392.5	470.3	481.9	507.7	513.7	30.9%	1.2%
CLT-LHR	-	-	-	157.6	262.4	-	66.5%	ORD-MAD	191.5	211.4	215.9	206.9	215.1	12.3%	4.0%
DEN-LHR	187.3	194.3	191.6	187.3	182.5	(2.5%)	(2.5%)	PHL-MAD	206.1	198.3	189.8	200.8	197.0	(4.4%)	(1.9%)
DFW-LHR	568.3	646.9	713.8	737.1	772.5	35.9%	4.8%	SJU-MAD	73.4	72.0	73.0	9.0	-	(100.0%)	(100.0%)
EWR-LHR	394.1	458.9	414.4	393.6	421.0	6.8%	7.0%	Total	10,941.0	12,018.4	12,333.8	12,259.1	12,891.4	17.8%	5.2%
IAD-LHR	458.6	491.2	476.3	455.4	478.4	4.3%	5.0%	AA+DL+UA+ JV Partners	34,321.6	37,544.9	37,466.3	38,138.0	39,513.1	15.1%	3.6%
IAH-LHR	366.3	363.5	354.8	360.4	390.0	6.5%	8.2%								
JFK-LHR	1,938.4	2,152.1	2,333.9	2,329.5	2,349.6	21.2%	0.9%								
LAS-LHR	191.4	225.4	237.8	240.5	244.2	27.6%	1.6%								
LAX-LHR	787.3	815.5	762.6	820.6	842.6	7.0%	2.7%								
MIA-LHR	685.6	721.1	857.1	868.2	916.6	33.7%	5.6%								
ORD-LHR	927.1	974.7	953.4	919.7	993.0	7.1%	8.0%								
PHL-LHR	452.0	470.6	489.1	490.6	501.3	10.9%	2.2%								
PHX-LHR	184.3	203.6	204.4	232.8	240.3	30.4%	3.2%								
RDU-LHR	151.7	155.4	155.5	151.6	151.5	(0.2%)	(0.1%)								
SAN-LHR	-	114.9	195.2	193.6	193.8	-	0.1%								
SEA-LHR	193.6	209.0	219.6	230.7	284.7	47.0%	23.4%								
SFO-LHR	435.1	466.0	455.3	455.2	454.5	4.4%	(0.2%)								

Note: Total annual seats in thousands, sum of both directions.
Source: U.S. DOT, T-100 data, via Diio.

American, Delta and United Yields by International Division

CY 2010	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	12.47	14.55	12.33
DL	12.42	13.19	12.79
UA	13.72	14.05	13.02
AA+DL+UA	12.90	14.13	12.86

CY 2011	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	12.87	16.36	12.09
DL	13.32	14.11	14.51
UA	14.44	16.13	14.67
AA+DL+UA	13.60	15.83	14.32

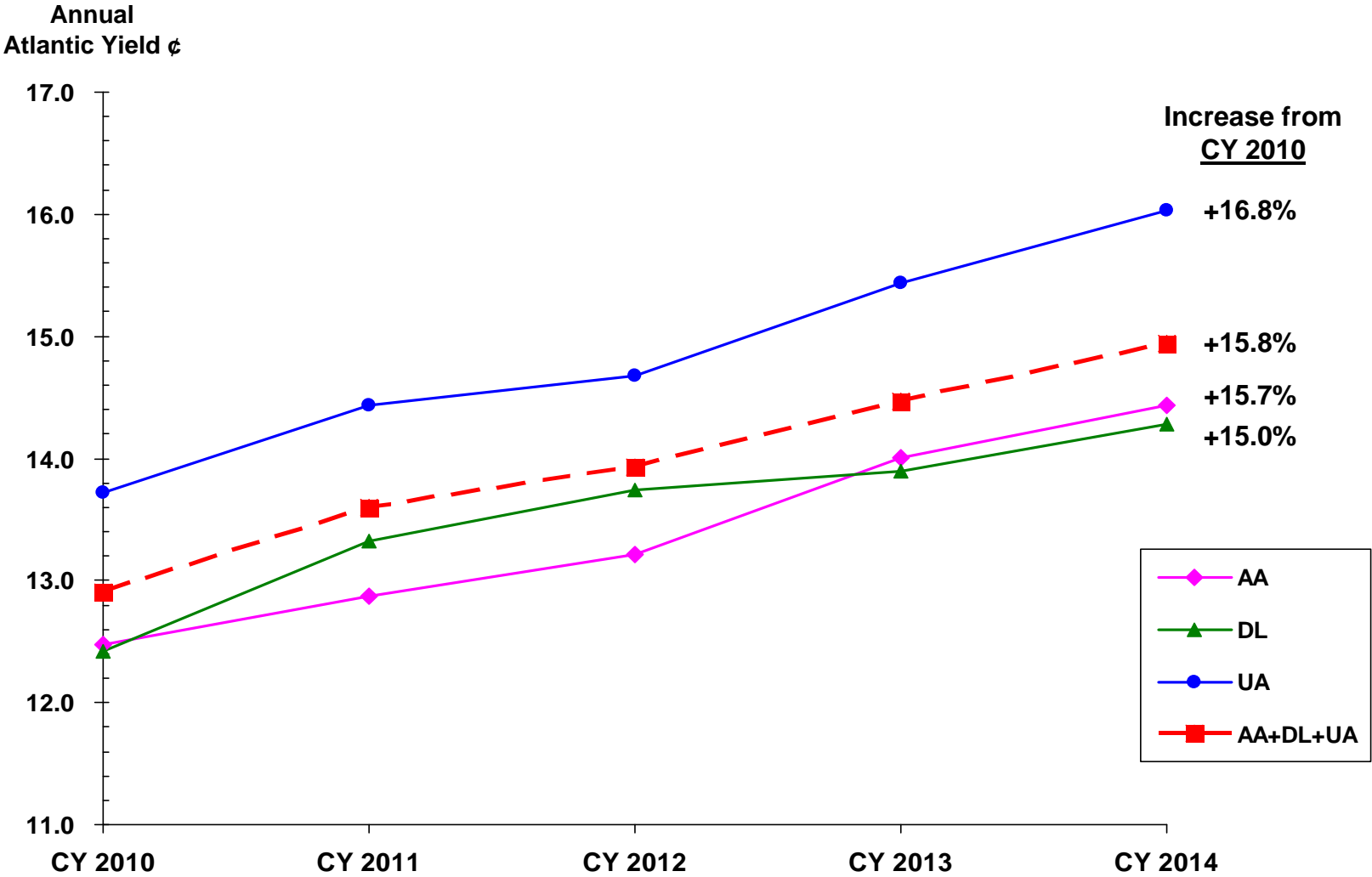
CY 2012	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	13.21	16.86	12.47
DL	13.74	14.18	14.70
UA	14.68	16.59	15.61
AA+DL+UA	13.93	16.22	14.89

CY 2013	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	14.01	17.24	11.67
DL	13.89	14.18	14.16
UA	15.44	16.55	15.06
AA+DL+UA	14.47	16.39	14.30

CY 2014	<u>Atlantic</u>	<u>Latin America</u>	<u>Pacific</u>
AA	14.43	16.77	12.51
DL	14.28	13.98	13.81
UA	16.03	16.41	14.81
AA+DL+UA	14.94	16.00	14.13

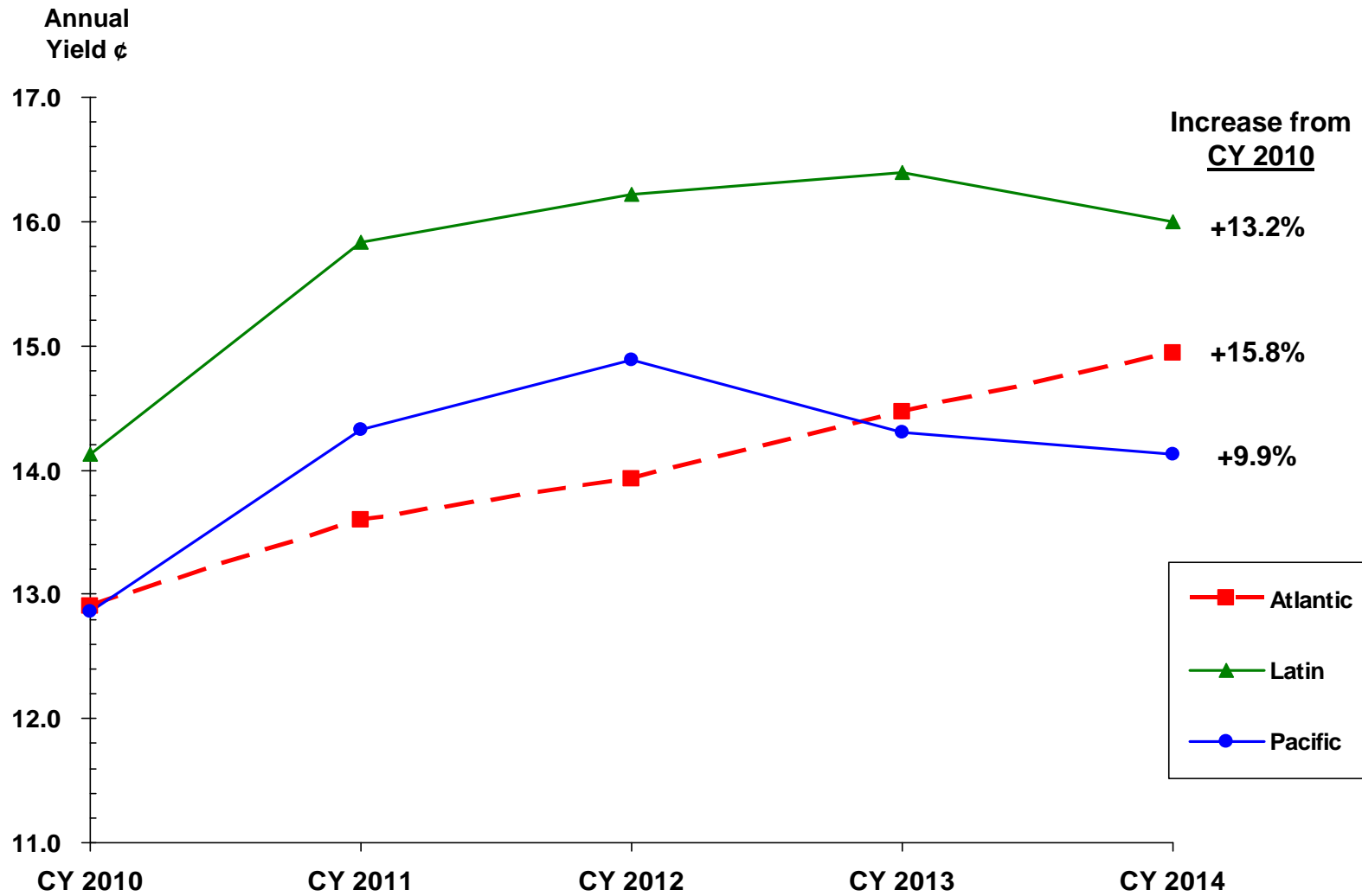
Note: AA includes American and US Airways. UA includes United and Continental.
Source: U.S. DOT, Form 41 data, via Diio.

American, Delta and United Atlantic Yield Trend, CY 2010-2014



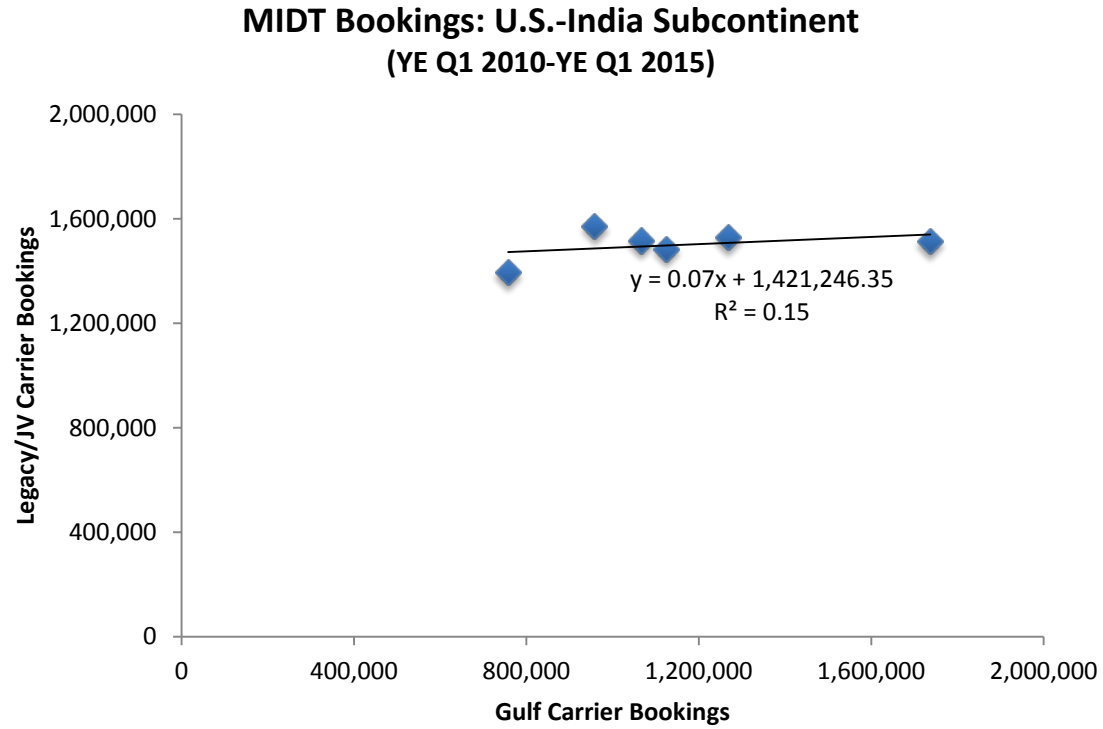
Note: AA includes American and US Airways. UA includes United and Continental.
Source: U.S. DOT, Form 41 data, via Diio.

American, Delta and United Combined Yield Trend by International Division, CY 2010-2014

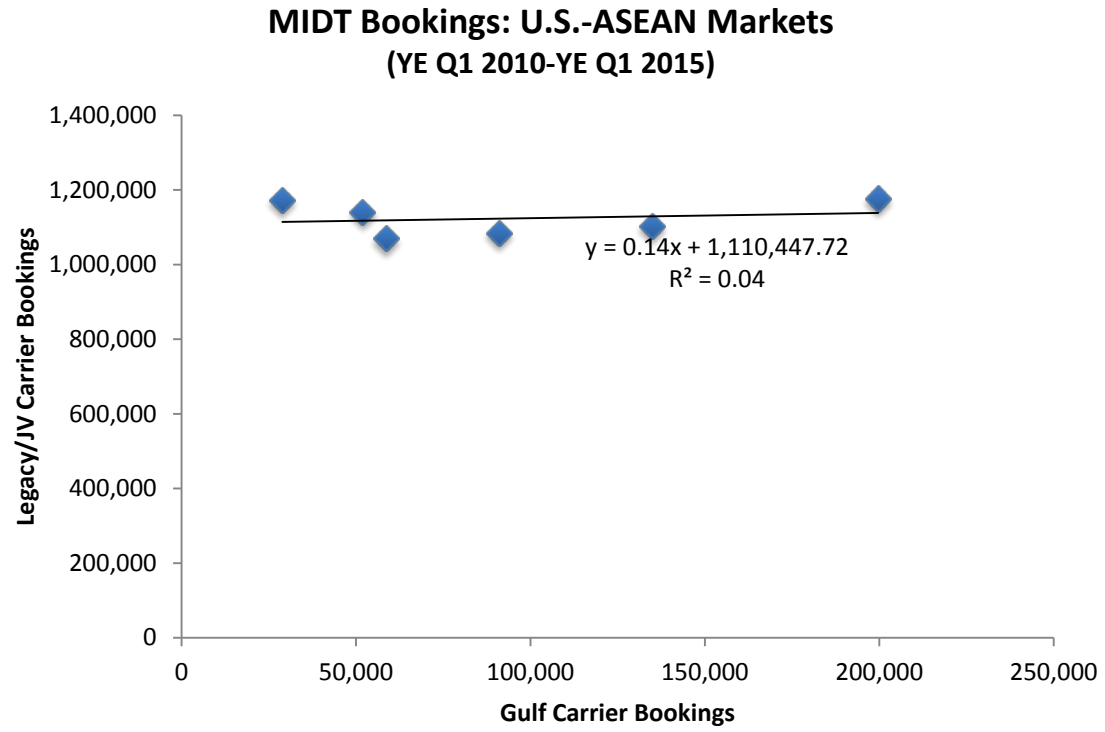


Note: AA includes American and US Airways. UA includes United and Continental.
 Source: U.S. DOT, Form 41 data, via Diio.

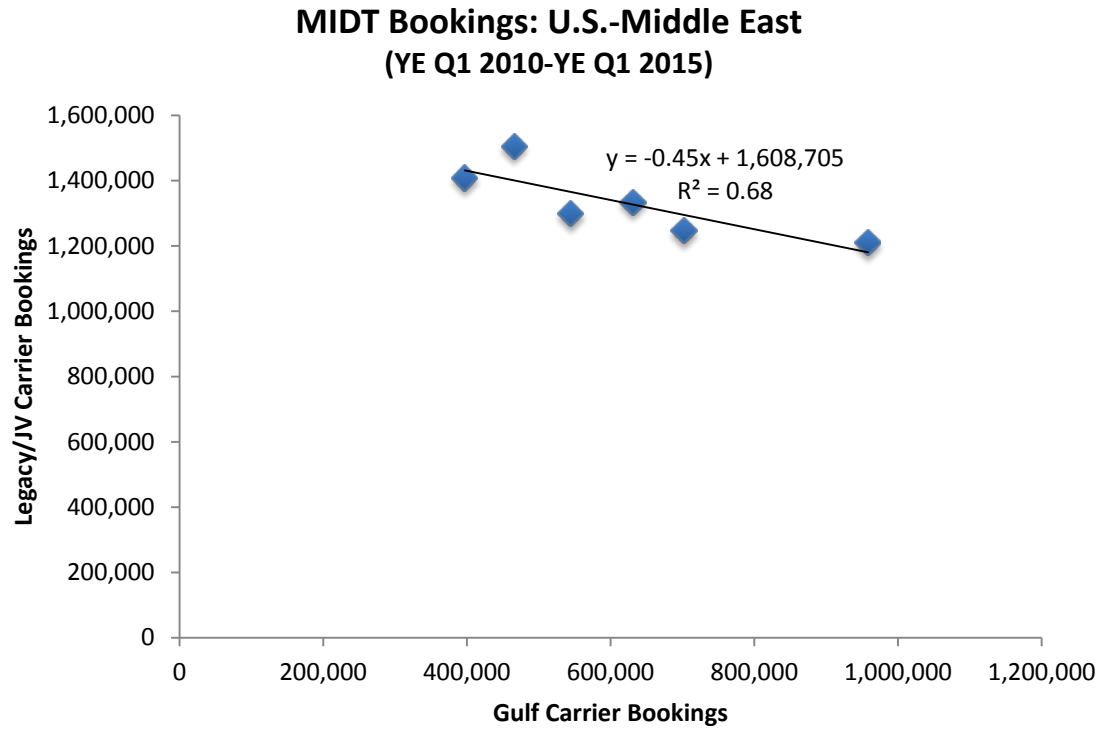
Regressions for Annual MIDT Bookings in Major Regional Markets



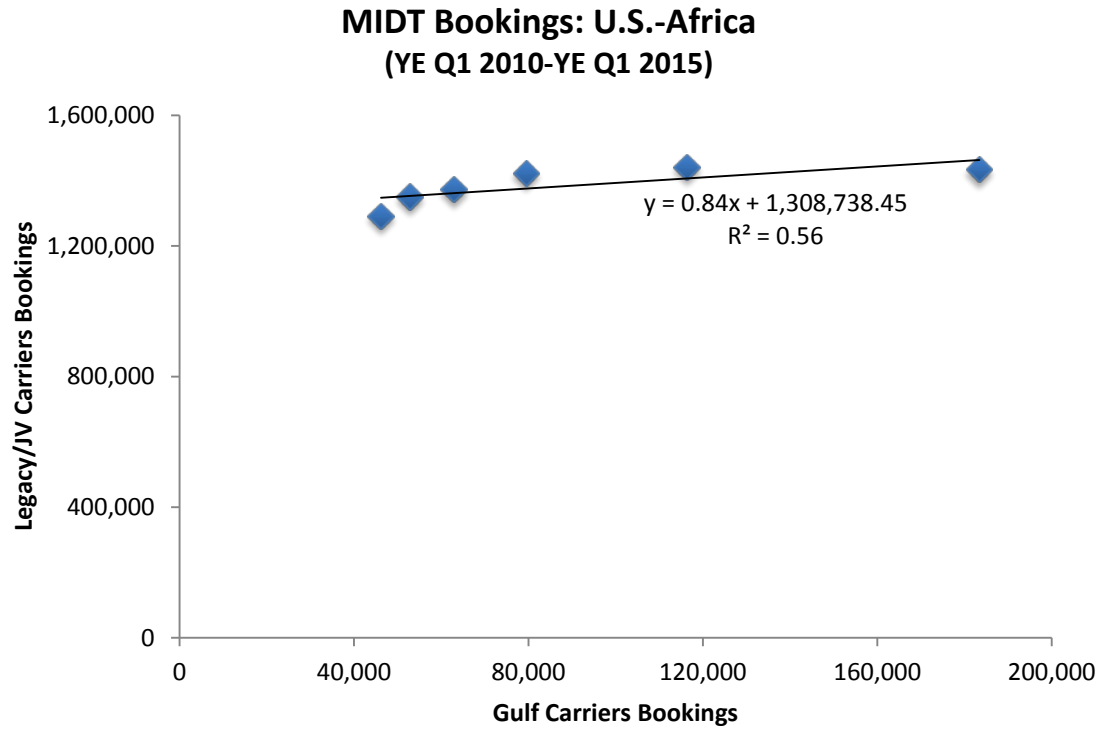
Source: MIDT bookings data from Travelport.



Source: MIDT bookings data from Travelport.



Source: MIDT bookings data from Travelport.



Source: MIDT bookings data from Travelport.

DISTRIBUTION OF BOOKINGS BY CARRIER GROUP AND SERVICE TYPE : 2014 vs. 2010

	Indian Subcontinent, Africa and ASEAN Markets			
	2010	2014	2010-2014 Change	
			Net	Percent
A. Total Bookings by Carrier Type				
Legacy/JV Partner	4,010,430	4,140,980	130,550	3%
Gulf Carriers	1,019,717	1,932,106	912,389	89%
All Other	4,586,369	4,482,297	(104,072)	-2%
Total	9,616,516	10,555,383	938,867	10%
B. Total Bookings by Service Type				
<u>Non-Stop Service</u>				
Legacy/JV Partner	307,392	242,054	(65,338)	-21%
Gulf Carriers	-	-	-	0%
All Other	1,354,049	1,079,948	(274,101)	-20%
Subtotal - Non-Stop	1,661,441	1,322,002	(339,439)	-20%
<u>2 Segments</u>				
<u>Online</u>				
Legacy/JV Partner	2,130,781	2,276,791	146,010	7%
Gulf Carriers	790,482	1,479,881	689,399	87%
All Other	2,141,374	2,506,995	365,621	17%
Subtotal - 2-Segment/Online	5,062,637	6,263,667	1,201,030	24%
Legacy/JV Partner Interline	46,934	135,843	88,909	189%
Interline - Other	654,548	420,993	(233,555)	-36%
Subtotal - 2 Segment	5,764,119	6,820,503	1,056,384	18%
<u>3 Segments</u>				
<u>Online</u>				
Legacy/JV Partner	507,935	622,931	114,996	23%
Gulf Carriers	16,319	125,631	109,312	670%
All Other	74,403	87,678	13,275	18%
Subtotal - 3-Segment/Online	598,657	836,240	237,583	40%
Legacy/JV Partner Interline	112,682	259,870	147,188	131%
Interline - Other	1,300,040	1,176,707	(123,333)	-9%
Subtotal - 3 Segment	2,011,379	2,272,817	261,438	13%
4 Segments	179,577	140,061	(39,516)	-22%
Total - All Service/Routing Types	9,616,516	10,555,383	938,867	10%

Source: MIDT data purchased from Travelport

Brian M. Campbell, Ph.D.
Chairman
Campbell-Hill Aviation Group, LLC

Professional Experience

Dr. Campbell's career has been heavily concentrated in the economic elements of commercial air transportation. After graduating from the Columbia University Graduate School of Business Administration in 1968, he was employed for seven years by Simat, Helliesen & Eichner, Inc., a transportation consulting firm. Prior to his resignation from that firm in 1975, he held the position of Vice President of the Washington office.

Between 1976 and 1982, Dr. Campbell was a co-founder and senior executive of two new-entrant (post-U.S. deregulation) airlines, with primary responsibilities for planning and finance. The first of these new companies was Midway Airlines, Inc., where he held the position of Vice President of Finance and Administration from 1977 to 1980. After resigning from Midway, Dr. Campbell formed Air Chicago, Inc. and served as its Chairman and Chief Executive Officer through the planning and initial capitalization period.

Dr. Campbell returned to the consulting profession in 1982, and from 1987 until December 1993, he was a founding member of Leeper, Cambridge & Campbell, Inc. He held the position of President from 1991 to 1993. In December 1993, he formed The Campbell Aviation Group, Inc., the predecessor to the Campbell-Hill Aviation Group.

Dr. Campbell's particular expertise is in the economic analysis of aviation issues and opportunities. This includes financial, marketing, planning, and operational aspects of airlines, airports, and equipment manufacturers. Dr. Campbell's experience is highly qualified from both research and executive viewpoints. He has served numerous clients in problem diagnosis, specification and analysis of alternative courses of action, development of strategic action plans, and implementation procedures and controls.

Throughout his career, Dr. Campbell has developed various analytical models and procedures for a broad variety of clients in all major sectors of the aviation industry. For instance, in his airport economic forecasting practice, he led the development of the only comprehensive airport activity and passenger forecasting model that realistically accounts for inter-airport competition within a single region. He also has created and implemented detailed costing, budgeting, and financial forecasting models for airlines.

Dr. Campbell's aviation expertise includes extensive consulting in air cargo and air express operations. Along with Rex Edwards, Vice President, he leads the firm's consulting services for air cargo and air express carriers including the Cargo Airline Association.

As a consultant, Dr. Campbell has appeared as an expert witness in more than 75 adversarial proceedings before regulatory boards or commissions, representing private as well as government and non-profit organizations. This cross-section of cases includes routes, fares, mergers, initial certification, and industry performance evaluations. The majority of these case appearances were before the U.S. Civil Aeronautics Board and the U.S. Department of Transportation, and several occurred before the Canadian Transport Commission and the European Commission. Dr. Campbell has testified in U.S. federal courts, state administrative tribunals, the U.S. Congress, the Canadian Parliament. During the course of his consulting work, he has presented countless reports to U.S. DOT, DOJ, and OMB staff on behalf of airline clients.

As a senior airline executive, Dr. Campbell raised millions of dollars of venture capital for lease and debt financing of used aircraft. He has managed a SEC registration for a public stock offering by a new-entrant airline, negotiated and successfully secured purchase agreements for new and used flight equipment, spare parts inventories, training services, and airport and maintenance facilities. Moreover, he has directed the finance and accounting, purchasing and stores, planning, and administration departments of new operating carriers.

Areas of Specialization:

- Route system development and market planning
- Financial and economic impact analysis of environmental regulations

Statistical modeling

- Demand forecasting (passenger, property, activity/operations)
- Aircraft evaluations and fleet planning
- Proforma financial statements and measures of performance
- Development and preparation of business plans for targeted purposes
- Presentations to financial institutions and boards of directors
- Financial services (equity and debt)
- Merger and acquisition analyses, recommendations, and integration plans
- Litigation support and expert testimony
- Federal and local airport and airways policy issues

Education:

- Bachelor of Commerce, McGill University
- M.B.A., University of Western Ontario
- Ph.D., Business Administration, Columbia University

John Z. Imbrie, Ph.D.
Professor of Mathematics
University of Virginia

Professional Experience

Dr. John Imbrie is a consulting associate with Campbell-Hill and provides statistical consulting and mathematical modeling involving passenger and air cargo transportation. He is a Professor of Mathematics at the University of Virginia, a post he has held since 1991. Prior to his current position, he was Associate Professor of Mathematics and Physics at Harvard University from 1986 to 1991. From 1984 to 1986, Dr. Imbrie was Assistant Professor of Physics at Harvard, and from 1981 to 1984, he was a Junior Fellow at Harvard. In addition, he was a Post-Doctoral Fellow in Physics at Harvard from 1980 to 1981. Dr. Imbrie also held academic posts in Switzerland and France from 1981 to 1983.

Professor Imbrie teaches statistics and probability courses as a Professor at the University of Virginia, where his research focuses on mathematical physics, probability, statistical mechanics, and mathematical modeling. He has assisted Campbell-Hill in several previous engagements. For the Cargo Airline Association he collaborated with the firm in developing statistical models of benefits and costs related to new FAA proposed rules affecting pilot flight and duty time. He also assisted in the firm's statistical modeling of the FAA's cost allocation methodology as applied to various aviation user categories.

Dr. Imbrie's additional professional activities include membership on the editorial board of the Communications in Mathematical Physics publication from 2002 through 2007, and memberships in the International Association for Mathematical Physics, American Mathematical Society, and American Geophysical Union. He was also awarded an Alfred P. Sloan Foundation Fellowship from 1986 to 1988, and was a Presidential Young Investigator from 1988 through 1993.

Areas of Specialization:

- Professorial instruction of statistics and probability courses at the University of Virginia.
- Statistical consulting and mathematical modeling of air transportation issues.
- Mathematical modeling of climate and global ice volume.
- Statistical consulting for research in medicine.

Education

- A.B., Physics, Magna Cum Laude, Harvard University
- A.M., Physics, Harvard University
- Ph.D., Physics, Harvard University