

The Istanbul Declaration and the Agenda for Freedom Summit – an opportunity for broad liberalisation

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At the International Air Transport Association's (IATA) 64th Annual General Meeting and World Air Transport Summit held on 2-3 June 2008, the executives of the world's airlines resolved unanimously to pursue a campaign to eliminate certain restrictions on the ways in which carriers can operate and adapt to changes in their economic environment (box 1). This resolution was published in the form of an Istanbul Declaration. The Declaration by IATA members was followed on 26 October by the Agenda for Freedom Summit, also held in Istanbul, in which officials from some 15 economies (box 2), including the US and the EU tried 'to find ways to expand the commercial freedoms of airlines, namely access to markets and to global capital' (IATA 2008b).²

What might come out of the Istanbul process in terms of liberalisation? This can be surmised from a document entitled 'A short path to greater commercial freedom for airlines', which follows the Chairman's summary (IATA 2008c) and will be analysed below. However, before that, the concepts restrictiveness and liberalisation in air service agreements (ASAs) and of the ALI framework, which will be used to measure the degree of liberalisation in ASAs are introduced.

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² Since both meetings were held in Istanbul, we will, in the following, refer to the 'Istanbul process', 'Istanbul passengers and traffic' and 'Istanbul routes and economies'.

Box 1 The Istanbul Declaration

The CEOs of the world’s airlines [...] call on governments and the entire industry value chain to show leadership and responsibility in this time of crisis.

- Governments must eliminate archaic rules that prevent airlines from restructuring across borders.
- In view of existing fees and charges, governments must refrain from imposing multiple and additional punitive taxes and other measures that will only deepen the crisis.
- State service providers must invest to modernise air transport infrastructure urgently, eliminating wasteful fuel consumption and emissions.
- Business partners, in particular monopoly service providers, must become as efficient as airlines are now. If not, regulators must restrain their appetite with tougher regulation.
- Labour unions must refrain from making irresponsible claims and join the effort to secure jobs in aviation and indeed in other industries.
- In the interest of the global economy and the flying public, we urge authorities to enforce the integrity of markets so that the cost of energy reflects its true value.

Source: IATA 2008a

Box 2 Participants to the Agenda for Freedom Summit^a

Australia	India	Switzerland
Brazil	Mauritius	Turkey
Canada	Morocco	United Arab Emirates
Chile	Panama	United States
European Commission	Singapore	Vietnam

^a Although included on the initial guest list, New Zealand was unable to attend. It is however likely that New Zealand will participate in the process and it is therefore included among the Istanbul economies.

How restrictive are different ASAs?

International air traffic is regulated by a complex web of *bilateral* and *reciprocal* ASAs. These ASAs limit the ways in which carriers can supply air services. For example, they can restrict the number of airlines servicing a particular route, limit the number of airports to which foreign carriers have access to, set quotas on the number of seats that carriers may provide—sometimes by specifying the aircraft type allowed to service a route, or limit ‘freedoms of the air’ (see box A in the Technical Annex).

Although some carriers’ ability to operate on many routes is less restricted than it was in the past, it is difficult to assess the value of this liberalisation. There are

several possible ways of quantifying restrictiveness or liberalisation.

- One way consists of allocating or estimating a score for various clauses of an ASA, depending on the degree to which they constrain carriers' operations.
- Another consists in observing how liberalising ASAs might affect traffic, or better yet, if possible, how it might change costs or prices. This latter option is the most difficult due to restricted access to commercially sensitive data such as airfares. Assessing the effects of changes in ASAs in terms of their effects on traffic requires sophisticated techniques to account for extraneous effects (for example economic growth or crises).
- Yet another is to assess the effect of regulations on economic activity and welfare.

ASAs can affect carriers' operations in many dimensions. They can also affect passenger and cargo operations differently.

In this paper, only passenger operations are discussed. However, cargo operations should not be neglected for their potential in terms of advancing a liberalisation agenda. This is because in some ways, cargo operations are politically less sensitive than passenger operations (in part, simply because they are less associated with the notion of flagship and of national interest). In addition, while most passenger services were government-owned, this was less the case in cargo.

As a first assessment, the objective of this paper is to provide a simple analysis based on the Airline Liberalisation Index (ALI) developed by the WTO Secretariat. This is an example of the first method described above.

Using the ALI to compare ASAs

The development of the ALI in the QUASAR database (see box 3) provides a quantitative tool for analysing the degree of restrictiveness of ASAs. The ALI framework allocates a score to various clauses of an agreement, according to their degree or restrictiveness – a restrictive clause is given a low score, whereas a liberal clause is given a high score.³ In the context of QUASAR, the most liberal agreement would be allocated a total score of 50. No such agreement exists. The most liberal agreements assessed to date (between Switzerland and the EU) have scores of 39.

Though imperfect, this method of measuring the restrictiveness of regulations, when performed by experts, has been shown to be consistent with results from sophisticated statistical methods (Piermartini and Rousová 2008).

³ Although the restrictiveness of some combinations of clauses might not be cumulative, this scoring method cannot account for this. Further research will be required to be able to identify the effects of clause combinations.

Box 3 **What is QUASAR?**

The Quantitative Air Services Agreements Review (QUASAR) is a database which includes consistent data on regulation—in the form of air service agreements (ASAs)—and scheduled passenger traffic. In addition to air services data, QUASAR includes basic data on the economies included in the database. The database was built by the WTO Secretariat with a base year of 2005 and covers bilateral traffic between more than 180 economies.

The main feature of the regulatory part of QUASAR is the ALI, the Airline Liberalisation Index, which is an expert-based index of the degree of restrictiveness of an ASA. Different restrictive clauses of the ASA are scored to produce an overall index of restrictiveness of the ASA. The ALI can take values between 0 and 50. Most ASAs included in QUASAR vary between 10 and 35. Although subjective, the ALI has been shown to be consistent with the results of principal component analysis. This is consistent with results for other expert-based indexes: statistical analysis brings out of a dataset, information that experts who know the data intimately can produce, based on their judgment.

QUASAR contains a large proportion of the data required to assess the likely effects on traffic of differences in the restrictiveness of different air service agreements (ASAs). This can be done by relating traffic measures to measures of restrictiveness, while controlling for extraneous factors (such as effects of economic growth).

This paper relies on the ALI and passenger traffic parts of QUASAR.

Source: WTO 2006

Evaluating Istanbul with the ALI

The Istanbul document entitled 'A short path to greater commercial freedom for airlines', can be scored for the purpose of calculating its ALI (table 2). Each clause of an agreement is evaluated for its restrictiveness and given a score out of 50 (also known as a weight). The score that would characterise all Istanbul agreements if the Istanbul process was successful is 34.⁴ The table shows how a sample of other agreements score by comparison.

⁴ The 'A short path ...' document does not mention anything about exchange of statistics (+1) or cooperative arrangements (+3). Following a conservative approach, it was assumed that neither aspect was in the scope of the Istanbul process. Should they be included and liberalised, the total ALI score would grow to 38.

In order to evaluate the possible effects of the Istanbul declaration, the ALIs of all the routes concerned are required. These were collected from QUASAR and updated where required (box 5).⁵

Table 1 **Scoring the Istanbul Declaration and other ASAs**

<i>Feature / ASA</i>	<i>'Low'^a</i>	<i>'Medium'^b</i>	<i>US–EU</i>	<i>Istanbul</i>	<i>EU–CH</i>	<i>ALI weight</i>
5th freedom	X	X	X	X	X	6
7th freedom					X	6
Cooperative arrangements			X			3
Multiple designation		X	X	X	X	4
Ownership: ^c						
SOC			X		X	0
Col			X		X	4
PPoB				X		8
Free pricing			X	X	X	8
Free determination on capacity		Bermuda I ^d	X	X	X	8
No provision on exchange of statistics			X		X	1
TOTAL	6	14	32	34	39	50

^a 'Low' score ASAs (eg Australia-Singapore, Germany-India, Italy-India). ^b 'Medium' score ASAs (eg Australia-UK, Australia France, Singapore-Netherlands), ^c In case of different provisions on ownership for each signatory party, the sum of the relevant scores is divided by two (e.g. the US-EU agreement accounts for 2 points). SOC: substantive ownership and control; Col: Community of interest; PPoB: Principal place of business. ^d Bermuda 1 is given a score of 4.

Source: QUASAR and authors' calculations

The ALIs for the Istanbul routes span a large spectrum. There are still some very restrictive agreements in place (figure 1(a)). At the bottom end of the spectrum are agreements which involve a large number of countries who seem not to have bothered to re-negotiate their ASAs or as in the case of the Baltic countries have inherited ASAs from previous regimes. Among the more liberal ASAs, the frequency peaks of 27, involve the EU and Morocco (ALI = 31), the US (ALI = 32) and Switzerland (ALI = 39).

QUASAR also classifies ASAs by type with a lettering system ('A' through 'F' for restrictive ASAs and 'G' for liberal ASAs) according to the characteristics listed in box 4. The types are related to the ALI, as illustrated in the horizontal axis in figure 1(b).

⁵ As explained in box 5, the analysis abstracts from 6 per cent of the traffic, concentrating on the 94 per cent of the traffic for which ALIs were available.

Box 4 **ASA types**

The ASA types summarised in the table below provide a useful way of characterising the restrictiveness of agreements. Of the categories, only G can be considered relatively liberal.

<i>Type</i>	<i>Freedom s</i>	<i>Designatio n</i>	<i>Withholding / ownership</i>	<i>Tariffs</i>	<i>Capacity</i>
A	3 rd , 4 th	Single	Substantive ownership and effective control	Double approval	Pre-determine d.
B	3 rd , 4 th	Multiple	Substantive ownership and effective control	Double approval	Pre-determine d.
C	3 rd , 4 th , 5 th	Multiple	Substantive ownership and effective control	Double approval	Pre-determine d.
D	3 rd , 4 th , 5 th	Multiple	Substantive ownership and effective control	Double approval	Bermuda1 a
E	3 rd , 4 th , 5 th	Multiple	Substantive ownership and effective control	Double approval	Pre-determine d.
F	3 rd , 4 th , 5 th	Multiple	Substantive ownership and effective control	Double approval	Bermuda1 a
G	3 rd , 4 th , 5 th	Multiple	Substantive ownership and effective control or community of interest or principal place of business	Free or double disapproval	Free

Note: **a** Under Bermuda 1, governments set out capacity principles for designated airlines to follow but each airline can determine its own capacity, with only ex post government review.

Source: WTO 2006

Figure 1(b) includes the number of agreements by groups and the number of passengers that travel along the corresponding routes. A large majority of 'Istanbul passengers' appear to fly under relatively liberal regimes: according to the QUASAR database, nearly 70 per cent of 'Istanbul traffic' flies under agreements of type G.⁶

⁶ Passenger traffic was retrieved from QUASAR it is therefore representative of 2005 flows.

Liberalisation from the Istanbul process is therefore likely to come from two sources:

- A significant improvement in the low ALI scores of the 166 restrictive agreements (types A through F)—which affect about 40 million passengers, or about 32 per cent of the traffic analysed, or
- A marginal improvement in the ALI scores of 67 agreements, which already have liberal characteristics (type G, but with ALI scores of less than 34)—which affect about 69 million passengers, or about 53 per cent of the traffic analysed.

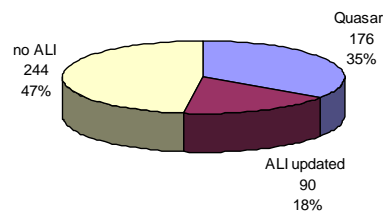
Box 5 Estimating the ALI scores for the ‘Istanbul routes’

The ALI scores used in this paper have two origins:

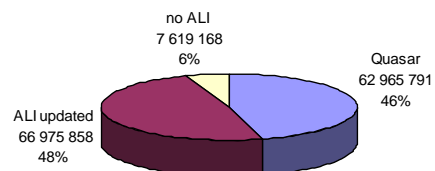
- The original scores found in QUASAR (176 ASAs)
- Updated scores for more recent agreements—for example the US-EU agreement (90 ASAs).

As can be seen in chart (a) below, a large number of ASAs were not coded. The corresponding ALIs and routes were omitted from the analysis. Chart (b) shows that the missing ALIs do not pertain to a large part of the traffic (a large part of this traffic is between India and the UAE). Although it might be important to code a large number of additional agreements, especially if the pattern of traffic is likely to change and these routes are likely to increase in importance, for the purposes of this preliminary paper, the routes corresponding to the 6 per cent of traffic for which ALIs are missing were omitted.

(a) Number of ASAs



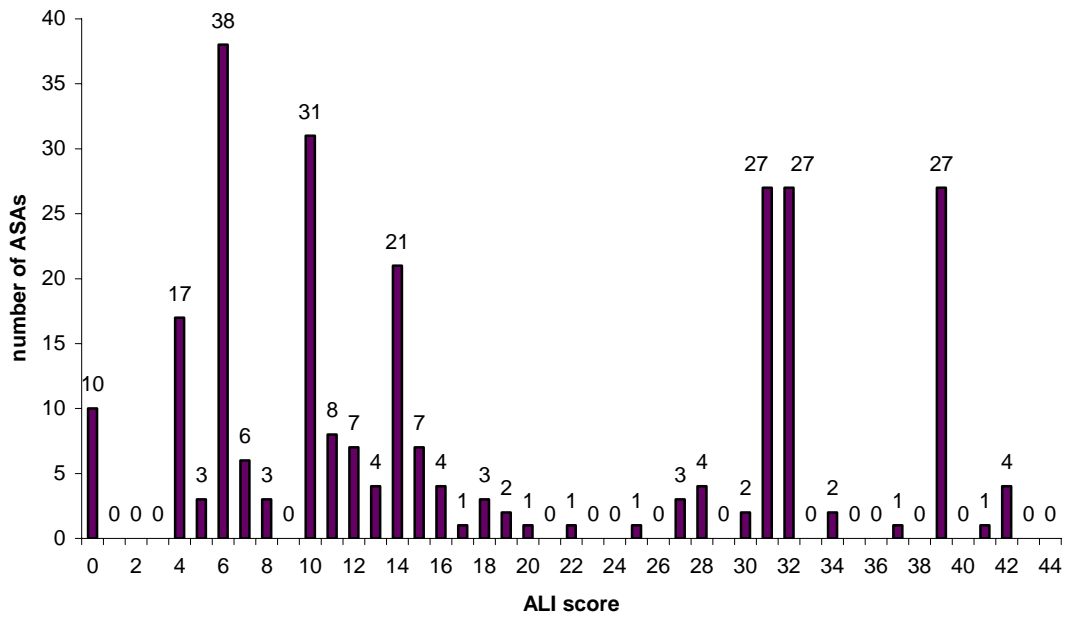
(b) Passenger traffic



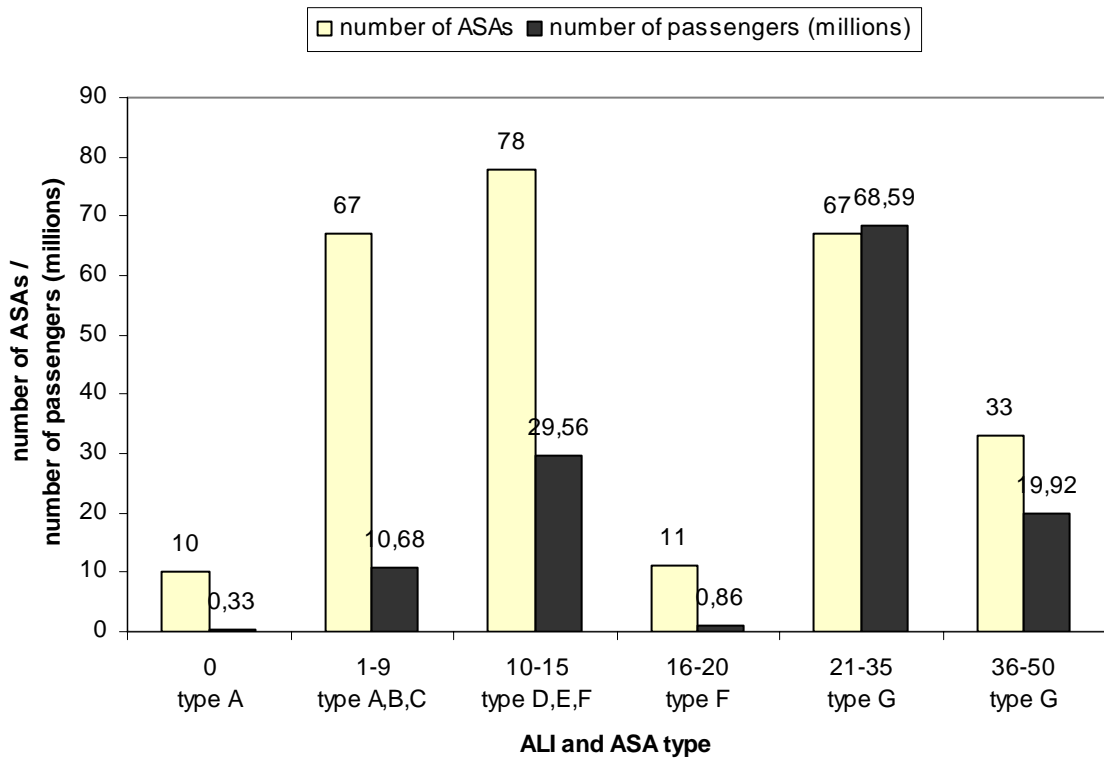
Source: Authors' calculations

Figure 1 Frequency of ALI scores, 'Istanbul routes'

(a) Individual agreements



(b) Agreements grouped by ALI categories



What are cuts in restrictiveness worth?

As mentioned above, the next step in evaluating the cost of restrictions—or the value of liberalisation—is to estimate how a change in restriction might change either traffic or prices. Recently, Geloso Grosso (2008) and Piermartini and Rousová (2008) have produced the type of information that might be used to convert changes in ALI into changes in passenger traffic.⁷ Both papers source passenger data for 2005 and ALI scores from QUASAR to estimate a cross-sectional gravity model. While Geloso Grosso concentrates on routes within APEC and between APEC and other economies, Piermartini and Rousová's sample is somewhat larger, covering a more heterogeneous set of routes between all ICAO members.

There is a lot of variation in the results presented within each study and across studies. The variation of results within each study is due to the application of different model specifications or statistical techniques. It is difficult to reconcile the differences across studies, given the information provided in both papers. One can surmise that part of the difference might come from differences in the dataset used in each study: APEC-related traffic in one case, which excludes many routes between developing countries, and all traffic (to the extent possible) in the other. To the extent that the 'Istanbul economies' tend to be more developed, the APEC sample used by Geloso Grosso might be somewhat better adapted to this study. The lower results might be consistent with the fact that APEC economies might have less scope for increasing traffic among that do other economies.⁸

Projections of how passenger numbers might increase as ALIs are increased to 34 (the value allocated to an Istanbul type agreement) are found in table 3. These projections are based on three coefficient values gleaned from the studies and represent the change in passenger numbers that is estimated to be due to a change in the ALI shown in the second column. The projections (in the last column) of the percentage changes in passenger numbers are again variable: increasing the ALI from 6 to 34 is projected to increase passenger numbers on a route by between 12 and 30 per cent.

⁷ There is no recent attempt at linking liberalisation and prices. Whalen (2005) estimated the effects of codesharing, alliances and OSAs on airfares. The study is based on a panel of data for US-EU routes from 1990 to 2000. This limits its use for this study. Replicating the Whalen study would be a very valuable input into policy making, but it requires highly sensitive airfare data, which are unlikely to be easily available to researchers.

⁸ 'Less scope' here does not refer to the fact that they have less scope to liberalise (which is the case, to a large extent), but rather that each point of liberalization appears to produce less growth in passenger numbers within the APEC sample than within the larger sample.

Table 3 **Projections of the effects of Istanbul on passenger traffic for a sample of ALI scores^a**

<i>ALI scores</i>	<i>Change in ALI^b</i>	<i>Intermediate step^c</i>	<i>Change in passenger traffic (per cent changes)</i>
Geloso Grosso—coef 1 = 0.0665^d			
6	28	1,862	12,2
10	24	1,596	8,5
15	19	1,264	5,6
32	2	0,133	0,4
Geloso Grosso—coef 2 = 0.1130^d			
6	28	3,164	21,7
10	24	2,712	14,8
15	19	2,147	9,7
32	2	0,226	0,7
Piermartini and Rousová—coef = 0.0095^d			
6	28	0,007	30,5
10	24	0,005	25,6
15	19	0,003	19,8
32	2	0,000	1,9

^a This table is based on the technical annex. ^b Change in ALI required to reach an ALI of 34, consistent with an 'Istanbul agreement'. ^c In Geloso Grosso, $a_1 \cdot \log(\text{ALI}_1/\text{ALI}_0)$; in Piermartini and Rousová, $a_1 \cdot (\text{ALI}_1 - \text{ALI}_0)$; see technical annex. ^d Geloso Grosso transforms passenger numbers and ALI scores in log base 10. Piermartini and Rousová transform passenger numbers in natural logs and keep ALI untransformed. This accounts for the differences in magnitude between the coefficients across the studies.

Source: authors' calculations based on Geloso Grosso 2008 and Piermartini and Rousová 2008

Applying the coefficients in table 3 to the Istanbul traffic produces the increases in passenger traffic between 3 and 10 per cent (table 4). These estimates are obtained according to the principles found in the technical annex and in table 3. This is done for each route—except those whose ALI exceeds 34.

Table 4 **Preliminary projections of passenger traffic increase from an Istanbul type agreement^a**

<i>Coefficient source</i>	<i>Million passengers</i>	<i>Per cent change</i>
Geloso Grosso—coef 1 = 0.0665	4.10	2.92
Geloso Grosso—coef 2 = 0.1130	7.17	5.10
Piermartini and Rousová—coef = 0.0095	12.75	9.27

^a Relative to 2005 passenger traffic.

Source: authors' calculations based on Geloso Grosso 2008 and Piermartini and Rousová 2008

Summary

This paper set out to provide a preliminary quantitative assessment of the possible effects of the potentially broad ranging Istanbul process.

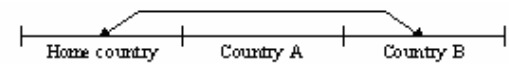
The Istanbul process has the potential to alleviate some of the constraints which affect operations on many routes and is likely to result in significant increases in passenger traffic, in the order of 3 to 10 per cent on the whole set of routes that might be affected by a successful outcome of the 'Istanbul process'. The broad range of these estimates is an indication of the uncertainty surrounding the information available and points to the need for further research to refine these estimates. These estimated increases might seem small, but the Istanbul process is part of a broad liberalisation movement, which includes the recent US-EU agreement. This US-EU agreement was implemented in March 2008 and increased the ALI on transatlantic routes from a range which includes values such as 7 (US-Sweden), 13 (UK-US and Ireland-US) and 28 (Italy-US and Finland-US) to 32, a significant liberalisation for a large proportion of transatlantic traffic.

Technical annex

1. Box A: Freedoms of the air
2. Projecting changes in passenger numbers from changes in ALI
3. Table A: Preliminary projections of increases in passenger traffic

Box A The Freedoms of the air

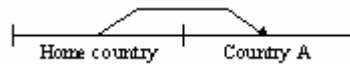
First freedom- the right of an airline of the home country to fly to country B over the territory of country A without landing



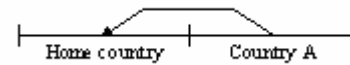
Second freedom- the right of an airline of the home country to land in country A for non-traffic purposes such as refuelling or maintenance, while en route to country B



Third freedom- the right of an airline of the home country to carry traffic (passengers, cargo or mail) from its territory to country A



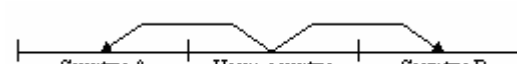
Fourth freedom- the right of an airline of the home country to carry traffic from country A to its own territory.



Fifth freedom- the right of an airline of the home country to carry traffic between countries A and B providing the flight originates or terminates in its own country



Sixth freedom- the right of an airline of the home country to carry traffic between two countries A and B via its own country: effectively a combination of the third and fourth freedoms



Seventh freedom- the right of an airline of the home country to operate flights between countries A and B without the flight originating or terminating in its own country

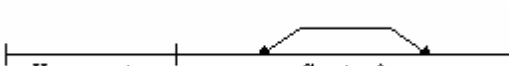


Cabotage rights- the right of an airline of the home country to carry traffic between two points within the territory of countries A and B:

consecutive cabotage rights allows a foreign airline stopping at two or more domestic points to carry domestic passengers and freight (eighth freedom)



stand-alone cabotage rights allows dedicated domestic flights by foreign carriers (ninth freedom).



Source: WTO 2006

Projecting changes in passenger numbers from changes in ALI

The relationship between changes in ALI and change in passenger traffic is used in tables 3, 4 and table A, found below.

To estimate the likely changes in passengers that should follow changes in ALI, we use coefficients estimated by Geloso-Grosso (GG) and Piermartini and Rousová (PR). Here we explain how these coefficients are used to produce the illustrative projections in table 3 and the preliminary projections in table 4 and table A.

The GG model is expressed in decimal logs, including the ALI:

$$\log(pax_0) = a_0 + a_1 \log ALI_0 + a_2 \log GDP + \dots$$

To calculate the changes in pax with different values of ALI, we subtract two estimation equations with different ALI,

$$\begin{aligned} \log(pax_1) - \log(pax_0) &= (a_0 + a_1 \log ALI_1 + a_2 \log GDP + \dots) - (a_0 + a_1 \log ALI_0 + a_2 \log GDP + \dots) \\ \log(pax_1) - \log(pax_0) &= a_1 (\log ALI_1 - \log ALI_0) \end{aligned}$$

$$\log\left(\frac{pax_1}{pax_0}\right) = a_1 \cdot \log\left(\frac{ALI_1}{ALI_0}\right)$$

which is the intermediate step for the GG model in column 3 in table 3. Taking the antilog produces the expression for the ratio of two passenger volumes as a function of the corresponding ALIs:

$$\begin{aligned} 10^{\log\left(\frac{pax_1}{pax_0}\right)} &= 10^{a_1 \cdot \log\left(\frac{ALI_1}{ALI_0}\right)} \\ \frac{pax_1}{pax_0} &= 10^{a_1 \cdot \log\left(\frac{ALI_1}{ALI_0}\right)} \end{aligned}$$

The PR model is expressed in natural logs and the ALI is not logged:

$$\ln pax_0 = a_0 + a_1 ALI_1 + a_2 \ln GDP + \dots$$

To calculate the changes in pax with different values of ALI, we subtract two estimation equations with different ALI,

$$\ln pax_1 - \ln pax_0 = (a_0 + a_1 ALI_1 + a_2 \ln GDP + \dots) - (a_0 + a_1 ALI_0 + a_2 \ln GDP + \dots)$$

$$\ln pax_1 - \ln pax_0 = a_1 (ALI_1 - ALI_0)$$

which is the intermediate step for the PR model in column 3 in table 3. Taking the antilog produces the expression for the ratio of two passenger volumes as a function of the corresponding ALIs:

$$\ln \frac{pax_1}{pax_0} = a_1(ALL_1 - ALL_0)$$

$$e^{\ln \frac{pax_1}{pax_0}} = e^{a_1(ALL_1 - ALL_0)}$$

$$\frac{pax_1}{pax_0} = e^{a_1(ALL_1 - ALL_0)}$$

The percentage change in passenger traffic is calculated in both cases as:

$$[(pax_1 / pax_0) - 1] \times 100$$

Table A **Preliminary projections of increases in passenger traffic**
Disaggregation of results in table 4, by ALI^a

ALI	number of routes	number of passengers	Geloso Grosso coeff. 1		Geloso Grosso coeff. 2.		Piermartini and Rousová	
			change in passengers		change in passengers		change in passengers	
			%	absolute	%	absolute	%	absolute
0 ^b or 1	10	329.949	26,43	87.199	48,96	161.529	38,13	125.798
4	17	2.217.908	15,29	339.205	27,36	606.763	32,98	731.382
5	3	208.357	13,60	28.328	24,19	50.394	31,72	66.089
6	38	5.495.052	12,23	671.865	21,65	1.189.893	30,47	1.674.535
7	6	987.854	11,08	109.476	19,55	193.157	29,24	288.847
8	3	1.771.294	10,10	178.903	17,76	314.631	28,02	496.280
10	31	8.354.498	8,48	708.329	14,83	1.239.011	25,61	2.139.464
11	8	2.367.494	7,79	184.500	13,60	321.988	24,42	578.163
12	7	8.790.440	7,17	630.374	12,49	1.097.829	23,24	2.043.294
13	4	771.091	6,60	50.909	11,48	88.491	22,08	170.251
14	21	5.376.105	6,08	326.766	10,55	566.986	20,92	1.124.948
15	7	3.903.785	5,59	218.321	9,69	378.196	19,78	772.232
16	4	280.960	5,14	14.442	8,89	24.980	18,65	52.396
17	1	62.784	4,72	2.962	8,15	5.115	17,53	11.004
18	3	391.396	4,32	16.908	7,45	29.164	16,42	64.252
19	2	126.670	3,95	4.998	6,80	8.609	15,32	19.400
20	1	220	3,59	8	6,18	14	14,22	31
22	1	7.994	2,94	235	5,04	403	12,08	965
25	1	62.576	2,07	1.293	3,54	2.212	8,93	5.586
27	3	18.244.823	1,54	281.845	2,64	481.507	6,88	1.254.532
28	4	2.425.343	1,30	31.518	2,22	53.799	5,87	142.260
30	3	1.535.528	0,84	12.834	1,42	21.872	3,87	59.473
31	27	4.340.861	0,62	26.747	1,05	45.548	2,89	125.494
32	27	42.093.886	0,40	170.046	0,69	289.358	1,92	807.430
34	2	431.062	0,00	0	0,00	0	0,00	0
37	1	3.843.512	0,00	0	0,00	0	0,00	0
39	27	15.173.801	0,00	0	0,00	0	0,00	0
41	1	16.605	0,00	0	0,00	0	0,00	0
42	3	329.801	0,00	0	0,00	0	0,00	0
TOTAL	266	129.941.649		4.098.009		7.171.446		12.754.106

^a Only ALIs with non-zero traffic are included. ^b ALI values of zero was given a value of 1 to avoid indeterminacies.

Source: authors' calculations based on Geloso Grosso 2008 and Piermartini and Rousová 2008

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