



InterVISTAS

strategic  
transportation  
& tourism  
solutions

# Impact of Liberalisation on Selected Countries

Dr. Michael Tretheway  
Inter VISTAS Consulting Inc.

November 15, 2009



## Presentation Outline

---

- **Study overview and objectives**
- **Background to the study**
- **Impact of liberalisation**
- **The analytical approach of the study**
- **Summary of results**
- **Q&A**
- *Also provided at the end of this document are the individual country results*



InterVISTAS



strategic  
transportation  
& tourism  
solutions

## Study Overview and Objectives



## InterVISTAS Study



- IATA commissioned InterVISTAS to undertake a study of the impact of air service liberalisation on 12 selected countries:
  1. Australia
  2. Brazil
  3. Chile
  4. India
  5. Mauritius
  6. Morocco
  7. Peru
  8. Singapore
  9. Turkey
  10. United Arab Emirates
  11. Uruguay
  12. Vietnam
- The countries selected were attendees of the inaugural *Agenda for Freedom Summit*
- The study was conducted in late 2008/early 2009 and completed in July 2009



## Study Overview

- **The study considered two forms of liberalisation:**
  - 1. Market access liberalisation**
    - Bilateral air service agreements
    - Removing restrictions on price, capacity, airline designation, authorised airports, fifth freedom rights, etc.
  - 2. Ownership and control liberalisation**
    - Removal of restrictions on the foreign ownership of airlines operating international services
    - Assumes principle place of business requirement replaces ownership restrictions
- **Impacts of the forms of liberalisation were considered separately and in combination**



## Study Objectives

- **Estimate a range of outcomes from liberalisation:**
  - **Impact on international traffic volumes**
  - **Impact on average fares and consumer surplus**
    - Consumer surplus is the welfare benefit to consumers from lower fares and increased consumption
  - **Impact on employment**
    - Increased employment in the aviation and tourism sectors
    - Catalytic impacts – aviation facilitating economic growth through increased trade, business activity and investment
  - **Impact on Gross Domestic Product (GDP)**
  - **Impact on home carriers**
    - Possible impacts on home carrier(s)



InterVISTAS



strategic  
transportation  
& tourism  
solutions

# Background



## Background

- **The regulation of international service has its basis in the 1944 Chicago Convention**
- **Historically, many of the resulting air service agreements have been fairly restrictive**
  - Many are/were modelled on the UK-US “Bermuda I” Agreement (1946) which placed controls on price, capacity, designated airlines and routings.
- **Similarly, most countries have placed foreign ownership and control restrictions on airlines**
  - Only minority ownership allowed
  - Restricted as low as 20% (Brazil), 25% (U.S.), 33% (Japan)





## Background

- **While the framework from the Chicago Convention has been durable and fairly flexible, there have been shortcomings:**
  - Slow moving and unresponsive – market led changes to pricing, capacity, etc. can sometimes take years to be approved
  - Bilateral negotiations often give insufficient weight to the benefits to passengers, shippers, and the economy
  - The aviation industry has undergone considerable technological and business transformation which is not always reflected in bilaterals
- **Recognising these shortcomings and the potential benefits, many governments have moved towards deregulation**

8

MALIAT – Multilateral Agreement on the Liberalisation of International Air Transportation (MALIAT) between Brunei, Chile, New Zealand, Singapore and the United States.

The MALIAT signatories have granted each other unlimited traffic rights between each other under third, fourth, fifth and sixth freedoms, as well as unlimited seventh freedom traffic rights for cargo-only flights. National majority ownership is not a requirement for being designated between MALIAT countries, only a principal place of business is required.

New Zealand, Chile, Singapore and Brunei have gone even further and granted each other seventh and eighth freedom rights for passenger flights.



## Background

- **As a result, in the last 2-3 decades there has been a trend towards liberalisation**
  - Earliest major example: deregulation of the U.S. domestic market (1978)
  - Many countries privatised their airlines in the 1980s and 1990s (although many put in place ownership restrictions)
  - The European Union single aviation market: deregulated between 1987 and 1993
  - The U.S. has pursued “open skies” bilaterals since the early 1990s
  - EU-US Opens Skies agreement (2008)
  - Many other examples exist (MALIAT)
  - Some countries have also relaxed airline ownership and control regulations (UK, Chile, EU Internal Market, etc.) 9

MALIAT – Multilateral Agreement on the Liberalisation of International Air Transportation (MALIAT) between Brunei, Chile, New Zealand, Singapore and the United States.

The MALIAT signatories have granted each other unlimited traffic rights between each other under third, fourth, fifth and sixth freedoms, as well as unlimited seventh freedom traffic rights for cargo-only flights. National majority ownership is not a requirement for being designated between MALIAT countries, only a principal place of business is required.

New Zealand, Chile, Singapore and Brunei have gone even further and granted each other seventh and eighth freedom rights for passenger flights.

The logo for InterVISTAS, featuring the company name in a white serif font on a black rectangular background. A red curved line starts from the bottom left of the black box and extends across the top of the slide's header image.

InterVISTAS

The header image shows a blue-toned mountain range under a clear sky. A red curved line starts from the bottom left of the header and extends across the top of the slide. A white dotted line and a white solid line also curve across the header.

strategic  
transportation  
& tourism  
solutions

# Impact of Liberalisation



## Impact of Market Access Liberalisation (Air Service Agreements)

- **New routes and more competition**
  - EU single aviation market – number of city-pairs served increased 74% between 1992 and 2000 (EU 2003)
  - EU single aviation market – number of routes with more than one carrier increased 88% (EU 2003)
- **Reduced fares and increased traffic**
  - Intra-EU fares declined 34% (in real terms) between 1992 and 2000 (EU 2003)
  - Rate of traffic growth doubled - 9.0% p.a. in 1998-2002 vs 4.8% p.a. in 1990-94 (InterVISTAS 2006)
  - UK-India bilateral liberalisation in 2004 trebled frequencies, reduced leisure fares by 17% and increased traffic by 108% (CAA 2006)

Note: India-UK bilateral was liberalised in 2004 but is still not open skies.



## Impact of Market Access Liberalisation (Air Service Agreements)

- **Many other examples exist:**

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

Source: "The Economic Impact of Air Service Liberalisation", Inter VISTAS-ga<sup>2</sup>, 2006.



## Impact of Ownership and Control Liberalisation

- **Ownership and control liberalisation has a number of impacts:**
  - Airlines obtain access to a wider pool of capital rather than being largely restricted to their home market, with the potential to lower the cost of capital (increased supply).
  - Ownership and control can also restrict foreign representation on boards and in management (e.g., the U.S.). Liberalisation allows access to global expertise.
  - Allows cross-border integration and merger of airlines offering cost efficiencies and network benefits.
- **Ownership and control closely linked to bilaterals**
  - Bilaterals generally have nationality restrictions on the designated airlines
  - One way around this is replace ownership with principle place of business, as Chile has done



## Impact of Ownership and Control Liberalisation

- **Small body of empirical evidence on ownership and control impacts**
  - A European Commission report estimated that removal of ownership and control in the US-EU market could stimulate trans-Atlantic traffic by 5-11% (Brattle 2002). This estimate is for a specific market that has already seen significant ownership liberalisation, largely on the EU side.
  - A World Trade Organisation study estimated, based on historical data, that fully removing ownership and control restrictions stimulated a 34-39% increase in traffic (WTO 2008).



## Economic Impacts of Liberalisation

- **Increased employment in aviation, tourism and other industries**
  - UK CAA 2004: aviation employment increased 38% in the UK between 1991 and 2000. Other EU countries saw employment growth of 6-84%.
- **Economic growth**
  - A number of studies have shown a link between air service growth and economic growth:
    - Irwin and Kasarda (1991)
    - Button and Taylor (2000)
    - Brueker (2002)
    - InterVISTAS (2006)



## Impact of Liberalisation

- The impact of liberalisation can be summarised as follows:



- Observation of these effects form the basis of the analytical approach in this study

The logo for InterVISTAS, featuring the company name in a white serif font on a black rectangular background. A red curved line starts from the bottom left of the black box and extends across the top of the slide.

InterVISTAS

The background of the slide features a blue-toned landscape of mountains and valleys. Overlaid on this are several white lines: a solid line, a dotted line, and a dashed line, all curving across the scene. The red line from the logo also curves across the top of the slide.

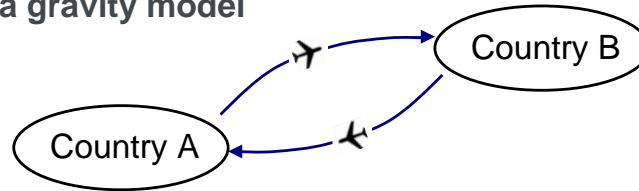
strategic  
transportation  
& tourism  
solutions

## Analytical Approach



## Gravity Model

- Impacts of liberalisation were estimated using a gravity model



Total Passenger Traffic Between Country A and B is function of:

- GDP of the two countries
- Trade in services between the two countries
- Distance and intervening countries between A and B
- Characteristics of the air service agreement between A and B (pricing controls, capacity controls, fifth freedoms, etc.)

18

Simplified summary of the model provided above.

Further notes:

Traffic between A and B is a function of:

- the product of the GDPs of Countries A and B
- the product of their total trade in services
- intervening countries (the more distance and the more countries between A and B, the lower the volume of traffic)
- the air service agreement dummies are – designated airline, capacity controls, pricing controls, fifth freedom rights, named points. The dummies take the value 1 if a restriction is in place.

Each dummy is multiplied by a variable capturing the scale of impact of each restriction, e.g., the named points dummy is multiplied by a variable derived from the product of the geographic area of the two countries. This captures the fact that liberalising this term will have minimal impact on geographically small island nations with only one major airport (e.g., the ASA for Singapore-Mauritius) than on large countries with multiple airports (e.g., the ASA for Australia-U.S.).



## Gravity Model

- **The parameters of the gravity model were estimated from data on over 800 country pairs with varying degrees of liberalisation**
- **The traffic impacts were then estimated using the model by “switching” the air service agreements to be more liberal (i.e., open skies)**
- **Based on the incremental traffic impacts, the model calculates the GDP and employment impacts using tailored economic multipliers**
- **Ownership and control impacts were incorporated using the results from the EU and WTO study**



## Gravity Model

- **Major assumptions:**
  - All major air service agreements change from their current arrangement to an “open skies” bilateral
  - Reciprocity to achieved with the opposing country
  - Ownership and control restrictions are removed, allowing up to 100% foreign ownership and control, and replaced with principle place of business
- **Scale of the impacts will vary from country-to-country depending on the current state of bilaterals, economic factors, trade and traffic levels**
- **The estimated impacts represent the long term impact 1-2 years after liberalisation**



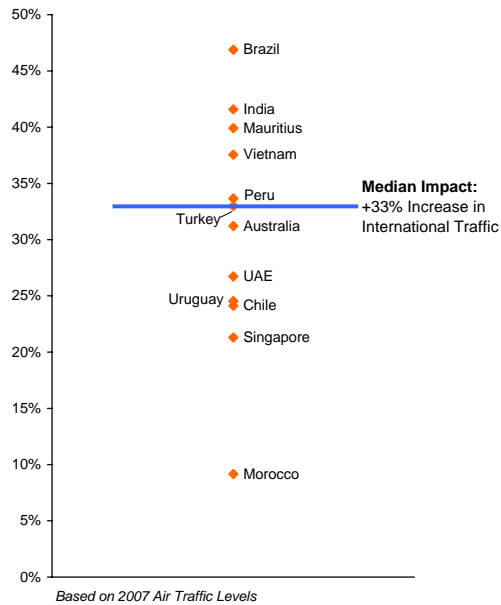
InterVISTAS

strategic  
transportation  
& tourism  
solutions

## Summary of Results



## Traffic Impacts Market Access Liberalisation



- **Median impact of market access liberalisation:** 33% increase in international traffic
- Brazil (47%), India (42%) and Mauritius (40%) have the highest impacts as current bilaterals are restrictive (little or no open skies)
- Morocco (9%) has lowest impact as it already has an open skies agreement with the EU (which accounts of 80% of international traffic)
- Singapore, Chile and UAE also have many liberal bilaterals

22

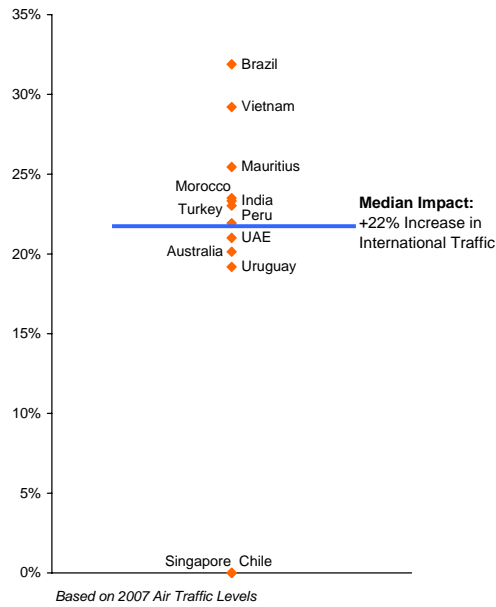
### Note:

Uruguay has fairly restrictive bilaterals. However, the impact of liberalisation of its bilaterals has a relatively small impact due to the characteristics of its economy and international traffic markets.

These are estimates of O/D traffic only and do not include connecting traffic, as the gravity model cannot estimate the possible stimulative impact of ASA liberalisation on connecting traffic (e.g., the additional traffic between the UK and Australia connecting at Singapore resulting from the liberalisation of the UK-Singapore and Singapore-Australia bilaterals). As such, these figures may underestimate the full traffic impact of liberalisation for some countries (especially UAE and Singapore)



## Traffic Impacts Ownership and Control Liberalisation

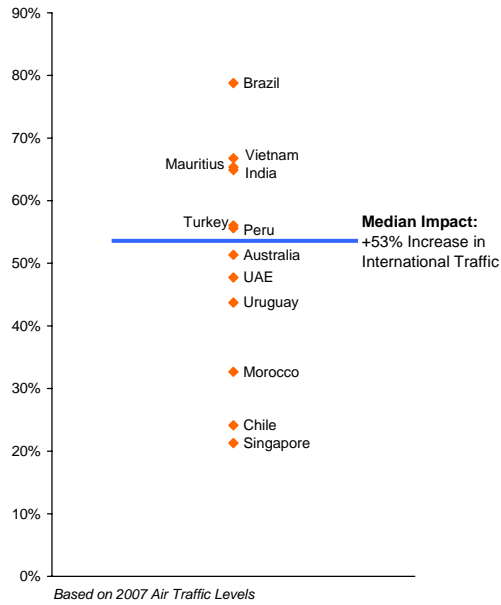


- **Median impact of ownership and control liberalisation:** 22% increase in international traffic (generally lower than market access liberalisation)
- Brazil (32%), Vietnam (29%) and Mauritius (25%) have the highest impacts as they allow the lowest share of foreign ownership (20%, 30% and 40% respectively)
- Singapore and Chile have no explicit restrictions on ownership and control so impacts are modelled as being zero





## Traffic Impacts: Market Access and Ownership and Control in Combination



- **Median impact of combined liberalisation:**  
53% increase in international traffic
- Countries currently with the most restrictive regulation would experience the biggest impacts: Brazil (79%), Vietnam (67%), Mauritius (65%), India (65%)
- Singapore (21%), Chile (24%) and Morocco (33%) have already undertaken significant liberalisation so the potential impact of further liberalisation is smaller



## Other Impacts: Fares, Consumer Surplus, Employment and GDP

- **Total impact summed over the 12 countries:**
  - Combined liberalisation is estimated to increase annual GDP by 0.86%
  - Employment is generated in the aviation industry, tourism industry and through catalytic impacts (trade, business activity, investment, etc.)

Total of All 12 Countries	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Reduction in Average Fare (Median Impact)	22%	16%	38%
Increase in Consumer Surplus (US\$)	11.7 Billion	6.2 Billion	17.9 Billion
Employment (FTEs)	1.5 Million	0.9 Million	2.4 Million
Gross Domestic Product (US\$)	42.1 Billion	25.4 Billion	67.6 Billion

Based on 2007 Data. Full results are provided at the end of this presentation document.



## Home Carrier Impacts General Findings

- **Across the 12 countries, home carrier market share ranged from 31% to 59%**
- **Limited empirical research into the impact on home carriers**
- **A number of case studies provide some insight:**
  - Liberalisation of the UK-U.S. Bermuda agreement in 1995 led to a reduced market share for UK carriers but an increase in traffic carried by UK carriers (InterVISTAS 2006)
  - UK-India liberalisation in 2004 resulted in increased traffic for incumbent carriers but reduced profits (CAA 2006)

26

Another aspect of liberalisation is the impact on home carriers

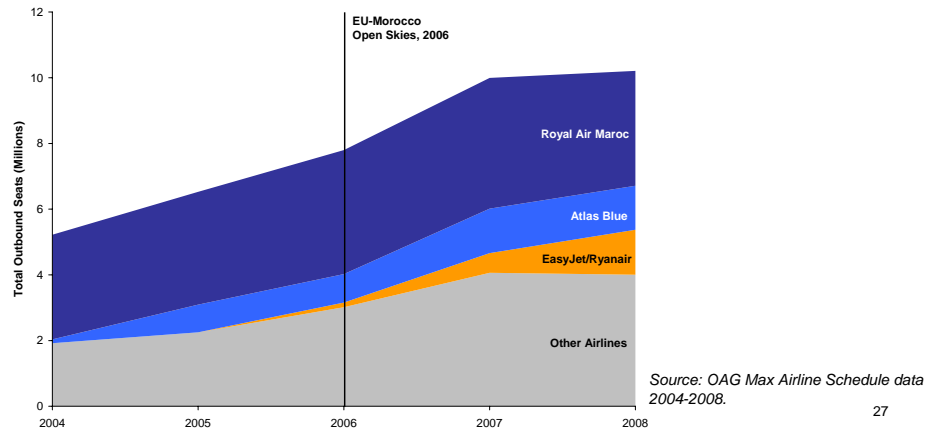
There is little empirical evidence on this (and our gravity model does not address this). However, there are some case studies that provide insight....



# Home Carrier Impacts General Findings

## • Another case study

- The EU-Morocco open skies agreement resulted in decline in market share by Moroccan carriers (from 66% to 51%), with most of this share lost to European LCCs (EasyJet, Ryanair). However, total traffic increased 25%, and Moroccan carriers also increased routes operated by 53% (InterVISTAS 2009)



The logo for InterVISTAS, featuring the word "InterVISTAS" in a white serif font on a black rectangular background. A red curved line starts from the bottom left of the black box and extends across the top of the slide.

InterVISTAS

The background of the slide is a blue-toned landscape of mountains and valleys. Overlaid on this are several white lines: a solid line, a dotted line, and a dashed line, all curving across the scene. A prominent red curved line also spans across the top of the slide, starting from the logo area.

strategic  
transportation  
& tourism  
solutions

Q&A  
Any Questions?



InterVISTAS



strategic  
transportation  
& tourism  
solutions

Thank You

[mike.tretheway@intervistas.com](mailto:mike.tretheway@intervistas.com)  
[www.InterVISTAS.com](http://www.InterVISTAS.com)



InterVISTAS

strategic  
transportation  
& tourism  
solutions

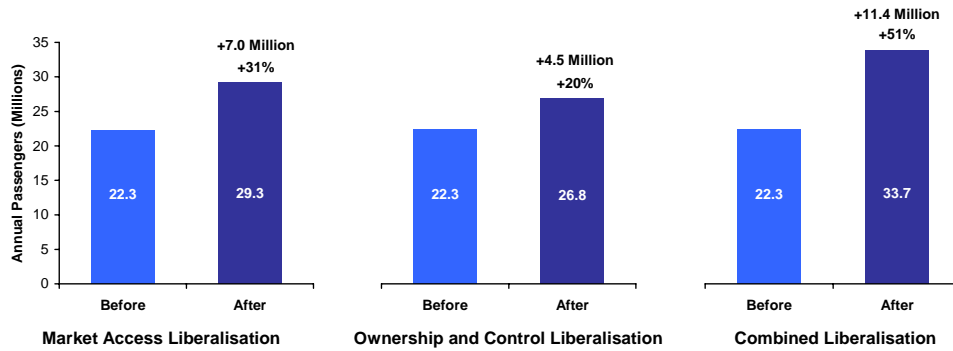
## Appendix: Individual Country Results



# Australia Traffic Impacts



## Impact of Liberalisation on International Traffic:



*Based on 2007 Air Traffic Levels*





# Australia Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	7.0 Million +31%	4.5 Million +20%	11.5 Million +51%
Reduction in Average Fare	23%	16%	39%
Increase in Consumer Surplus (US\$)	2.8 Billion	1.6 Billion	4.4 Billion
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	12,400	7,800	20,200
Tourism (including indirect impacts)	22,700	14,500	37,200
Catalytic Impacts	20,300	12,800	33,100
<b>Total Employment Impact</b>	<b>55,400</b>	<b>35,100</b>	<b>90,500</b>
Gross Domestic Product (US\$ and % increase)	3.4 Billion +0.46%	2.1 Billion +0.29%	5.5 Billion +0.75%

32

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

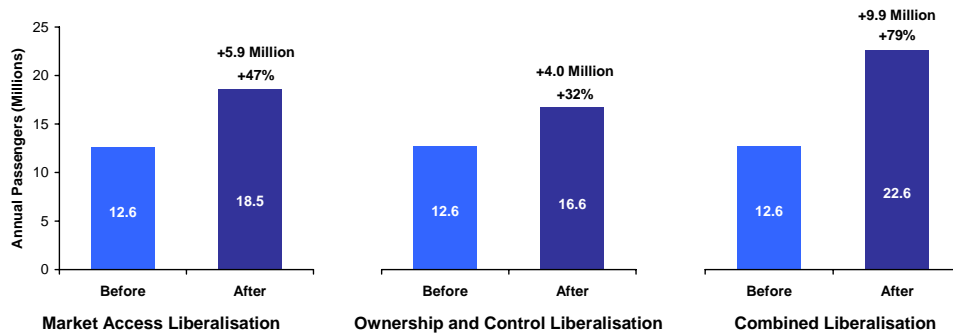


# Brazil Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Brazil has some the highest traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



Based on 2007 Air Traffic Levels

Note: these impacts are higher than Australia as Brazil is more restrictive (e.g., the combined impact is 79% compared with 51% in Australia)



## Brazil Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	5.9 Million +47%	4.0 Million +32%	9.9 Million +79%
Reduction in Average Fare	30%	20%	50%
Increase in Consumer Surplus (US\$)	1.8 Billion	0.9 Billion	2.7 Billion
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	43,600	29,300	72,900
Tourism (including indirect impacts)	102,700	70,600	173,300
Catalytic Impacts	94,800	63,600	158,400
<b>Total Employment Impact</b>	<b>241,100</b>	<b>163,500</b>	<b>404,600</b>
Gross Domestic Product (US\$ and % increase)	10.5 Billion +0.57%	7.1 Billion +0.39%	17.6 Billion +0.96%

34

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

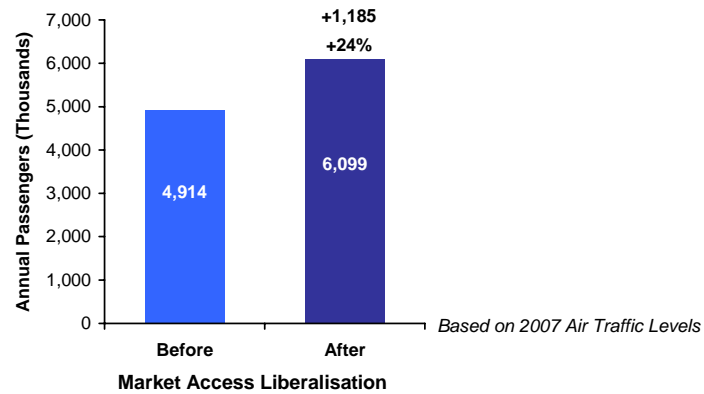


# Chile Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively low traffic impacts (although still substantial) due to the open skies nature of many bilaterals
- Ownership and control already liberalised so no further impacts





# Chile Summary of Impacts



	Market Access Liberalisation
Increase in International Traffic (Passengers and % increase)	1.2 Million +24%
Reduction in Average Fare	18%
Increase in Consumer Surplus (US\$)	133 Million
<b>Employment (FTEs)</b>	
Aviation Sector (including indirect impacts)	4,700
Tourism (including indirect impacts)	19,000
Catalytic Impacts	11,500
<b>Total Employment Impact</b>	<b>35,200</b>
Gross Domestic Product (US\$ and % increase)	1.2 Billion +0.51%

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

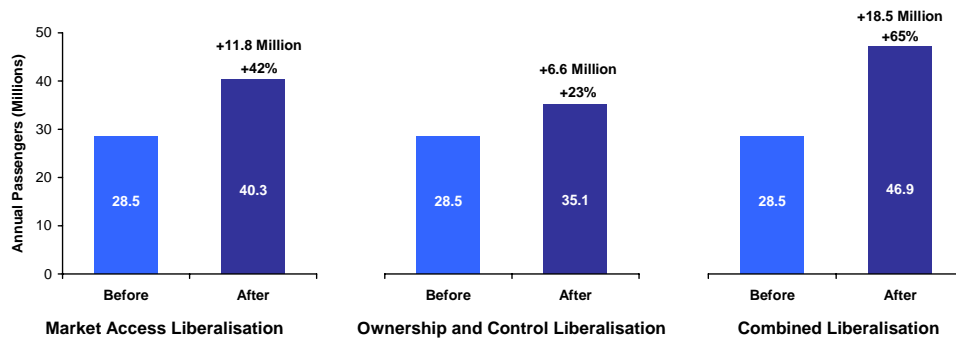


# India Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



Based on 2007 Air Traffic Levels



# India Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	11.8 Million +31%	6.6 Million +23%	18.5 Million +65%
Reduction in Average Fare	31%	19%	50%
Increase in Consumer Surplus (US\$)	2.7 Billion	1.4 Billion	4.1 Billion
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	155,100	86,100	241,200
Tourism (including indirect impacts)	252,400	141,500	393,900
Catalytic Impacts	176,900	98,100	275,000
<b>Total Employment Impact</b>	<b>584,400</b>	<b>325,700</b>	<b>910,100</b>
Gross Domestic Product (US\$ and % increase)	17.1 Billion +0.55%	9.5 Billion +0.31%	26.6 Billion +0.86%

38

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

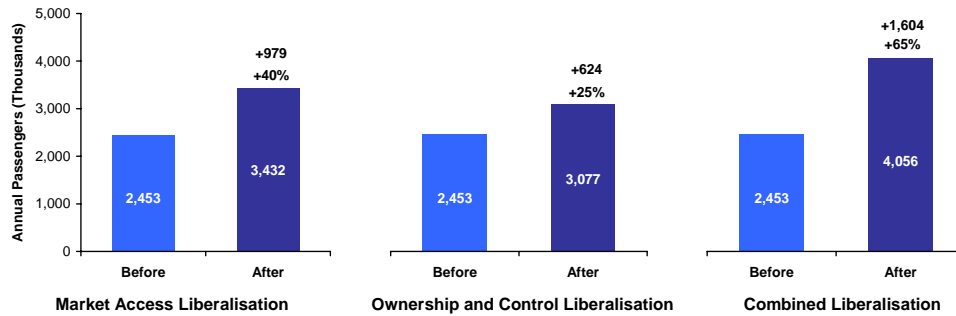


# Mauritius Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



*Based on 2007 Air Traffic Levels*





# Mauritius Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	979,000 +40%	624,000 +25%	1,604,000 +65%
Reduction in Average Fare	31%	21%	51%
Increase in Consumer Surplus (US\$)	165 Million	119 Million	283 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	1,900	1,300	3,200
Tourism (including indirect impacts)	6,500	4,400	10,900
Catalytic Impacts	2,000	1,400	3,400
<b>Total Employment Impact</b>	<b>10,400</b>	<b>7,100</b>	<b>17,500</b>
Gross Domestic Product (US\$ and % increase)	82 Million +0.57%	54 Million +0.38%	136 Million +0.96%

40

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

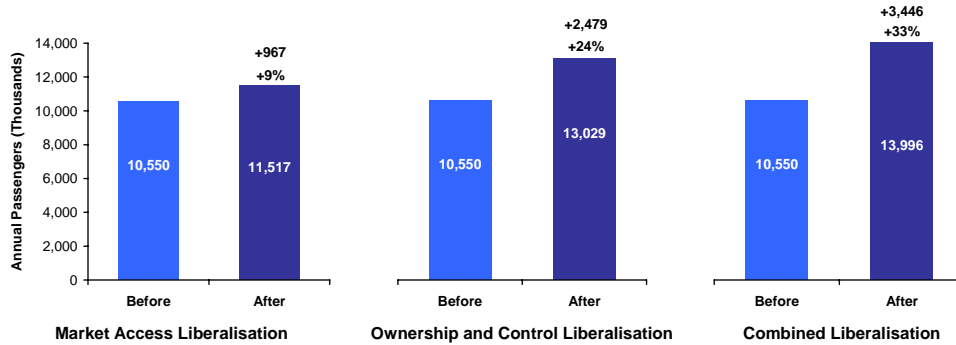


# Morocco Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively low traffic impacts from market access liberalisation due to the EU open skies agreement already in place
- Greater impacts from ownership and control liberalisation



Based on 2007 Air Traffic Levels



# Morocco Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	967,000 +9%	2,479,000 +24%	3,446,000 +33%
Reduction in Average Fare	7%	19%	26%
Increase in Consumer Surplus (US\$)	115 Million	207 Million	322 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	2,400	6,000	8,400
Tourism (including indirect impacts)	13,100	41,600	54,700
Catalytic Impacts	8,500	21,200	29,700
<b>Total Employment Impact</b>	<b>24,000</b>	<b>68,800</b>	<b>92,800</b>
Gross Domestic Product (US\$ and % increase)	307 Million +0.25%	885 Million +0.71%	1,192 Million +0.95%

42

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

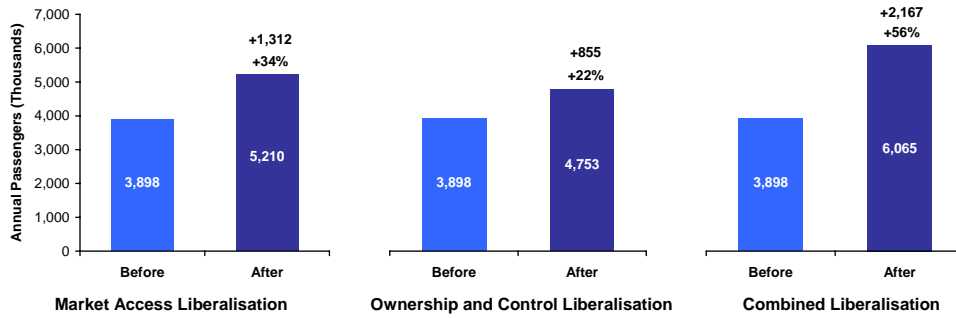


# Peru Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



*Based on 2007 Air Traffic Levels*



# Peru Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	1.3 Million +34%	855,000 +22%	2.2 Million +56%
Reduction in Average Fare	21%	14%	35%
Increase in Consumer Surplus (US\$)	257 Million	131 Million	388 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	5,000	3,200	8,200
Tourism (including indirect impacts)	24,600	16,000	40,600
Catalytic Impacts	17,600	11,200	28,800
<b>Total Employment Impact</b>	<b>47,200</b>	<b>30,400</b>	<b>77,600</b>
Gross Domestic Product (US\$ and % increase)	1,272 Million +0.47%	816 Million +0.37%	2,088 Million +0.85%

44

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

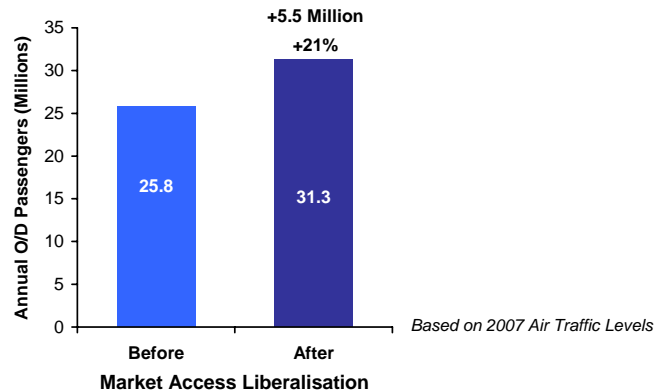


# Singapore Traffic Impacts



## Impact of Liberalisation on International O/D Traffic:

- Relatively low traffic impacts (although still substantial) due to the open skies nature of many bilaterals
- No government controls on ownership and control so no impacts estimated



45

Note: these are estimates of O/D traffic only and do not include connecting traffic, as the gravity model cannot estimate the possible stimulative impact of ASA liberalisation on connecting traffic (e.g., the additional traffic between the UK and Australia connecting at Singapore resulting from the liberalisation of the UK-Singapore and Singapore-Australia bilaterals). As such, these figures may underestimate the full traffic impact of liberalisation.



# Singapore Summary of Impacts



	Market Access Liberalisation
Increase in International Traffic (Passengers and % increase)	5.5 Million +21%
Reduction in Average Fare	15%
Increase in Consumer Surplus (US\$)	834 Million
<b>Employment (FTEs)</b>	
Aviation Sector (including indirect impacts)	8,800
Tourism (including indirect impacts)	22,000
Catalytic Impacts	13,100
<b>Total Employment Impact</b>	<b>43,900</b>
Gross Domestic Product (US\$ and % increase)	875 Million +0.34%

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

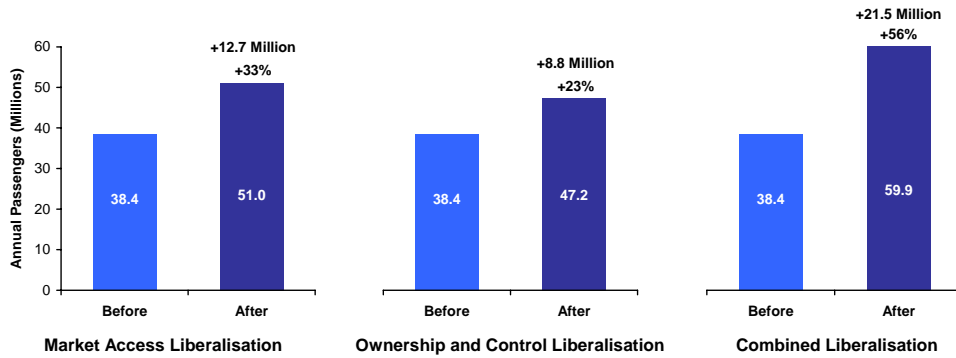


# Turkey Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



*Based on 2007 Air Traffic Levels*





## Turkey Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	12.7 Million +33%	8.8 Million +23%	21.5 Million +56%
Reduction in Average Fare	27%	16%	48%
Increase in Consumer Surplus (US\$)	975 Million	391 Million	1,366 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	47,200	28,400	75,600
Tourism (including indirect impacts)	159,200	91,000	250,200
Catalytic Impacts	37,700	21,900	59,600
<b>Total Employment Impact</b>	<b>244,100</b>	<b>141,300</b>	<b>385,400</b>
Gross Domestic Product (US\$ and % increase)	4.8 Billion +0.53%	2.8 Billion +0.31%	7.7 Billion +0.83%

48

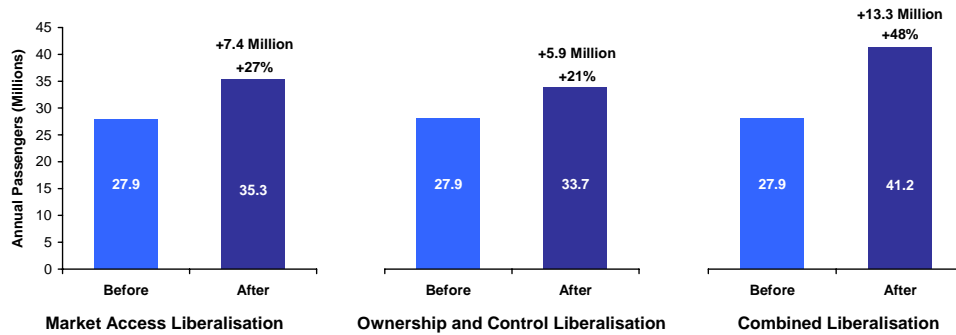
All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency



# United Arab Emirates Traffic Impacts



## Impact of Liberalisation on International O/D Traffic:



Based on 2007 Air Traffic Levels

Note: these are estimates of O/D traffic only and do not include connecting traffic, as the gravity model cannot estimate the possible stimulative impact of ASA liberalisation on connecting traffic (e.g., the additional traffic between the UK and Australia connecting at Dubai or Abu Dhabi resulting from the liberalisation of the UK-UAE and UAE-Australia bilaterals). As such, these figures may underestimate the full traffic impact of liberalisation.



## United Arab Emirates Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	7.4 Million +27%	5.9 Million +21%	13.3 Million +48%
Reduction in Average Fare	21%	16%	37%
Increase in Consumer Surplus (US\$)	1.3 Billion	1.0 Billion	2.4 Billion
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	13,200	10,500	23,700
Tourism (including indirect impacts)	37,600	29,600	67,200
Catalytic Impacts	19,200	15,000	34,200
<b>Total Employment Impact</b>	<b>70,000</b>	<b>55,100</b>	<b>125,100</b>
Gross Domestic Product (US\$ and % increase)	835 Million +0.57%	658 Million +0.39%	1.5 Billion +0.96%

50

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

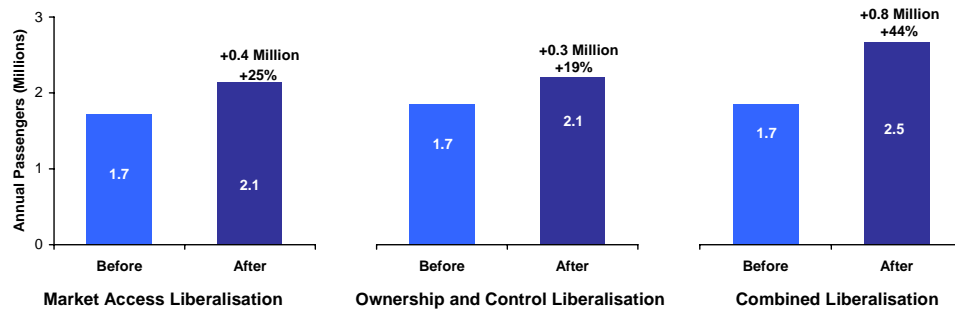


# Uruguay Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Fairly high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



*Based on 2007 Air Traffic Levels*



# Uruguay Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	422,000 +25%	330,000 +19%	752,000 +44%
Reduction in Average Fare	14%	12%	26%
Increase in Consumer Surplus (US\$)	19 Million	20 Million	39 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	1,100	900	2,000
Tourism (including indirect impacts)	4,700	3,700	8,400
Catalytic Impacts	2,100	1,700	3,800
<b>Total Employment Impact</b>	<b>7,900</b>	<b>6,300</b>	<b>14,200</b>
Gross Domestic Product (US\$ and % increase)	171 Million +0.46%	135 Million +0.36%	306 Million +0.82%

52

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency

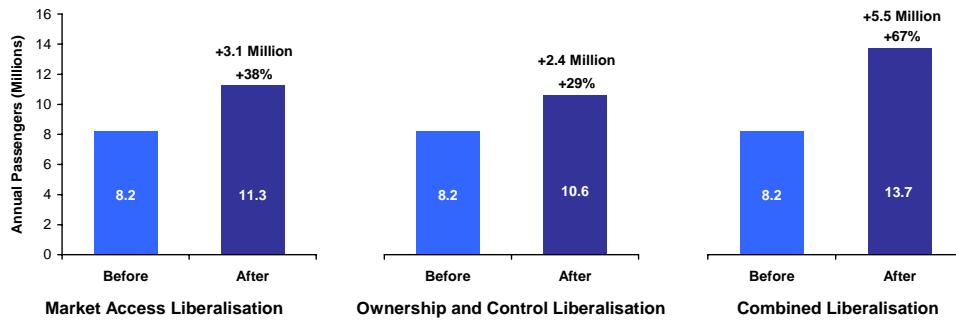


# Vietnam Traffic Impacts



## Impact of Liberalisation on International Traffic:

- Relatively high traffic impacts due to the current restrictive nature of the bilaterals and ownership controls



*Based on 2007 Air Traffic Levels*



# Vietnam Summary of Impacts



	Market Access Liberalisation	Ownership and Control Liberalisation	Combined Liberalisation
Increase in International Traffic (Passengers and % increase)	3.1 Million +38%	2.4 Million +29%	5.5 Million +67%
Reduction in Average Fare	27%	22%	49%
Increase in Consumer Surplus (US\$)	616 Million	409 Million	1,025 Million
<b>Employment (FTEs)</b>			
Aviation Sector (including indirect impacts)	23,700	18,300	42,000
Tourism (including indirect impacts)	73,300	58,600	131,900
Catalytic Impacts	14,300	11,100	25,400
<b>Total Employment Impact</b>	<b>111,300</b>	<b>88,000</b>	<b>199,300</b>
Gross Domestic Product (US\$ and % increase)	1.7 Billion +0.75%	1.3 Billion +0.59%	3.0 Billion +1.35%

54

All financial figures are in U.S. dollars (2008 prices) for easy comparison  
Report also provides results in local currency