B Performance of Australia’s airports — sensitivity analysis

The Commission compared the performance of Sydney, Melbourne, Brisbane and Perth airports (the monitored airports) against a selection of overseas airports in chapter 5 of the inquiry report, *Economic Regulation of Airports*. The Commission based some of its analysis on data from the Air Transport Research Society (ATRS) Airport Benchmarking Report, which provides data for more than 200 airports across the world in 2016 (ATRS 2018).

The Commission presented results in chapter 5 for a sample of airports in the ATRS database with more than 10 million passengers for the following indicators:

* whole‑of‑airport operating costs per passenger (figure 5.2)
* input utilisation rates per million passengers (figure 5.3)
* runways
* gates
* terminal area
* aeronautical revenue per passenger (figure 5.9).

Data on passenger numbers and aeronautical revenue for Australian airports were sourced from the Australian Competition and Consumer Commission (ACCC) monitoring report (ACCC 2018). Results for whole‑of‑airport operating costs and aeronautical revenue per passenger were adjusted using both nominal US dollars (USD) and USD adjusted for purchasing power parity (PPP) (box 5.3).

The sensitivity of results was checked using other samples of airports (box 5.2) and are presented in the figures below. Results are labelled with three‑letter International Air Transport Association (IATA) codes to allow readers to identify the airports in each sample (codes and corresponding airports are listed in table B.1).

The qualitative conclusions in chapter 5 are generally robust to variations in the sample of airports chosen, with some exceptions noted in chapter 5.

| Figure B.1 Whole‑of‑airport operating costs per passenger – Nominal USD**a,b**Various airport samples, 2016 |
| --- |
|

| Figure B.1. This figure shows the whole-of-airport operating costs per passenger (in nominal USD), and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5).  |
| --- |
| Legend |

 |
| a The Commission used variable costs as a proxy for operating costs. The ATRS defines variable costs as all non‑capital related costs. Estimates are from whole‑of‑airport company financial reports and include non‑aeronautical costs. PPP conversions are approximate and based on average exchange rates and PPP rates for 2016. b Passenger numbers for Australian airports are sourced from the ACCC monitoring report. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
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|  |

| Figure B.2 Whole‑of‑airport operating costs per passenger – PPP USD**a,b**Various airport samples, 2016 |
| --- |
|

| Figure B.2. This figure shows the whole-of-airport operating costs per passenger (in purchasing power parity adjusted USD), and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a The Commission used variable costs as a proxy for operating costs. The ATRS defines variable costs as all non‑capital related costs. Estimates are from whole‑of‑airport company financial reports and include non‑aeronautical costs. PPP conversions are approximate and based on average exchange rates and PPP rates for 2016. b Passenger numbers for Australian airports are sourced from the ACCC monitoring report. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
|  |
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| Figure B.3 Runways per million passengers**a**Various airport samples, 2016 |
| --- |
|

| Figure B.3. This figure shows the number of runways per million passengers, and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a Passenger numbers for Australian airports are sourced from the ACCC monitoring report. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
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| Figure B.4 Gates per million passengers**a**Various airport samples, 2016 |
| --- |
|

| Figure B.4. This figure shows the number of gates per million passengers, and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a Passenger numbers for Australian airports are sourced from the ACCC monitoring report. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
|  |
|  |

| Figure B.5 Terminal area (’000 square metres) per million passengers**a**Various airport samples, 2016 |
| --- |
|

| Figure B.5. This figure shows the terminal area ('000 square metres) per million passengers, and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a Passenger numbers for Australian airports are sourced from the ACCC monitoring report. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
|  |
|  |

| Figure B.6 Aeronautical revenue per passenger – Nominal USD**a**Various airport samples, 2016 |
| --- |
|

| Figure B.6. This figure shows aeronautical revenue per passenger (in nominal USD), and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a ATRS estimates of total revenue from landing, terminal and other fees for overseas airports, based on financial reports for 2016. These estimates exclude security charges. For consistency with figure 5.7, this figure uses ACCC monitoring report data for Australian airports. Average values are used for 2015‑16 and 2016‑17. This includes aeronautical security charges. As a result, aeronautical revenue per passenger will be overstated for Australian airports relative to overseas airports in the sample. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
|  |
|  |

| Figure B.7 Aeronautical revenue per passenger – PPP USD**a**Various airport samples, 2016 |
| --- |
|

| Figure B.7. This figure shows aeronautical revenue per passenger (in purchasing power  parity adjusted USD), and the relative position of the four monitored airports compared with other airports. Results are shown using four different samples of airports (discussed in chapter 5). |
| --- |
| Legend |

 |
| a ATRS estimates of total revenue from landing, terminal and other fees for overseas airports, based on financial reports for 2016. These estimates exclude security charges. For consistency with figure 5.7, this figure uses ACCC monitoring report data for Australian airports. Average values are used for 2015‑16 and 2016‑17. This includes aeronautical security charges. As a result, aeronautical revenue per passenger will be overstated for Australian airports relative to overseas airports in the sample. |
| *Source*: Commission estimates based on ATRS (2018) and ACCC (2018). |
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| Table B.1 IATA airport codes |
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| IATA code | Airport | Country |
| --- | --- | --- |
| AKL | Auckland Airport | New Zealand |
| ALC | Alicante‑Elche Airport | Spain |
| AMS | Amsterdam Airport Schiphol | Netherlands |
| ARN | Stockholm Arlanda Airport | Sweden |
| ATH | Athens International Airport Eleftherios Venizelos | Greece |
| ATL | Hartsfield–Jackson Atlanta International Airport | United States |
| AUS | Austin‑Bergstrom International Airport | United States |
| BCN | Barcelona‑El Prat Airport | Spain |
| BGY | Orio al Serio International Airport (Bergamo/Milan) | Italy |
| BHX | Birmingham Airport | United Kingdom |
| BKK | Suvarnabhumi Airport (Bangkok) | Thailand |
| BNA | Nashville International Airport | United States |
| BNE | Brisbane Airport | Australia |
| BOM | Chhatrapati Shivaji Maharaj Airport (Mumbai) | India |
| BOS | General Edward Lawrence Logan International Airport (Boston) | United States |
| BRU | Brussels Airport | Belgium |
| BUD | Budapest Ferenc Liszt International Airport | Hungary |
| BWI | Baltimore/Washington International Thurgood Marshall Airport | United States |
| CAN | Guangzhou Baiyun International Airport | China |
| CDG | Paris Charles de Gaulle Airport | France |
| CGK | Soekarno‑Hatta International Airport (Jakarta) | Indonesia |
| CGN | Cologne Bonn Airport | Germany |
| CJU | Jeju International Airport | Korea, Rep. |
| CLT | Charlotte Douglas International Airport | United States |
| CPH | Copenhagen Airport, Kastrup | Denmark |
| DAL | Dallas Love Field  | United States |
| DCA | Ronald Reagan Washington National Airport | United States |
| DEL | Indira Gandhi International Airport (Delhi) | India |
| DEN | Denver International Airport | United States |
| DFW | Dallas/Fort Worth International Airport | United States |
| DTW | Detroit Metropolitan Wayne County Airport | United States |
| DUB | Dublin Airport | Ireland |
| DUS | Düsseldorf Airport | Germany |
| DXB | Dubai International Airport | United Arab Emirates |
| EDI | Edinburgh Airport | United Kingdom |
| EWR | Newark Liberty International Airport (New York/New Jersey) | United States |
| FCO | Rome–Fiumicino International Airport | Italy |
| FLL | Fort Lauderdale‑Hollywood International Airport | United States |
| FRA | Frankfurt am Main Airport | Germany |
| GMP | Gimpo International Airport (Seoul) | Korea, Rep. |
| GVA | Geneva Airport | Switzerland |

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| Table B.1 (continued) |
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| IATA code | Airport | Country |
| --- | --- | --- |
| HAK | Haikou Meilan International Airport | China |
| HAM | Hamburg Airport | Germany |
| HEL | Helsinki Airport | Finland |
| HKG | Hong Kong International Airport | Hong Kong, China |
| HKT | Phuket International Airport | Thailand |
| HND | Tokyo International Airport | Japan |
| HNL | Daniel K. Inouye International Airport (Honolulu) | United States |
| HOU | William P. Hobby Airport (Houston) | United States |
| IAD | Washington Dulles International Airport | United States |
| IAH | George Bush Intercontinental Airport (Houston) | United States |
| ICN | Incheon International Airport (Seoul) | Korea, Rep. |
| IST | Istanbul Atatürk Airport  | Turkey |
| JFK | John F. Kennedy International Airport (New York) | United States |
| KIX | Kansai International Airport (Osaka) | Japan |
| KUL | Kuala Lumpur International Airport | Malaysia |
| LAS | McCarran International Airport (Las Vegas) | United States |
| LAX | Los Angeles International Airport | United States |
| LED | Pulkovo Airport (St. Petersburg) | Russian Federation |
| LGA | LaGuardia Airport (New York) | United States |
| LGW | Gatwick Airport (London) | United Kingdom |
| LHR | Heathrow Airport (London) | United Kingdom |
| LIS | Humberto Delgado Airport (Lisbon) | Portugal |
| LPA | Gran Canaria Airport | Spain |
| LTN | London Luton Airport | United Kingdom |
| MAA | Chennai International Airport | India |
| MAD | Adolfo Suárez Madrid‑Barajas Airport | Spain |
| MAN | Manchester Airport | United Kingdom |
| MCI | Kansas City International Airport | United States |
| MCO | Orlando International Airport | United States |
| MDW | Chicago Midway International Airport | United States |
| MEL | Melbourne Airport | Australia |
| MIA | Miami International Airport | United States |
| MNL | Ninoy Aquino International Airport (Manila) | Philippines |
| MSP | Minneapolis−Saint Paul International Airport | United States |
| MSY | Louis Armstrong New Orleans International Airport | United States |
| MUC | Munich Airport | Germany |
| MXP | Milan Malpensa Airport | Italy |
| NCE | Nice Cote D’Azur Airport | France |
| NGO | Chubu Centrair International Airport (Nagoya) | Japan |
| NRT | Narita International Airport (Tokyo) | Japan |
| OAK | Oakland International Airport | United States |
| ORD | O’Hare International Airport (Chicago) | United States |

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| Table B.1 (continued) |
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|

| IATA code | Airport | Country |
| --- | --- | --- |
| ORY | Paris Orly Airport | France |
| OSL | Oslo Airport | Norway |
| PDX | Portland International Airport | United States |
| PEK | Beijing Capital International Airport | China |
| PER | Perth Airport | Australia |
| PHL | Philadelphia International Airport | United States |
| PHX | Phoenix Sky Harbor International Airport | United States |
| PMI | Palma de Mallorca Airport | Spain |
| PRG | Václav Havel Airport Prague | Czech Republic |
| PUS | Gimhae International Airport (Busan) | Korea, Rep. |
| PVG | Shanghai Pudong International Airport | China |
| RDU | Raleigh‑Durham International Airport | United States |
| SAN | San Diego International Airport | United States |
| SAW | Sabiha Gokcen International Airport (Istanbul) | Turkey |
| SEA | Seattle‑Tacoma International Airport | United States |
| SFO | San Francisco International Airport | United States |
| SHA | Shanghai Hongqiao International Airport | China |
| SIN | Changi Airport (Singapore) | Singapore |
| SJC | Norman Y. Mineta San Jose International Airport | United States |
| SLC | Salt Lake City International Airport | United States |
| SMF | Sacramento International Airport | United States |
| SNA | John Wayne Airport (Orange County)  | United States |
| STL | St. Louis Lambert International Airport | United States |
| STN | London Stansted Airport | United Kingdom |
| STR | Stuttgart Airport | Germany |
| SUB | Juanda International Airport (Surabaya) | Indonesia |
| SVO | Sheremetyevo International Airport (Moscow)  | Russian Federation |
| SXF | Berlin Schönefeld Airport | Germany |
| SYD | Sydney Airport | Australia |
| SZX | Shenzhen Bao’an International Airport | China |
| TLV | Ben Gurion Airport (Tel Aviv) | Israel |
| TPA | Tampa International Airport | United States |
| TPE | Taiwan Taoyuan International Airport | Taiwan |
| TXL | Berlin Tegel Airport | Germany |
| VIE | Vienna International Airport | Austria |
| WAW | Warsaw Frederic Chopin Airport | Poland |
| XMN | Xiamen Gaoqi International Airport | China |
| YUL | Montréal‑Pierre Elliott Trudeau International Airport | Canada |
| YVR | Vancouver International Airport | Canada |
| YYC | Calgary International Airport | Canada |
| YYZ | Toronto Pearson International Airport | Canada |
| ZRH | Zurich Airport | Switzerland |

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| *Source*: ATRS (2018). |
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