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
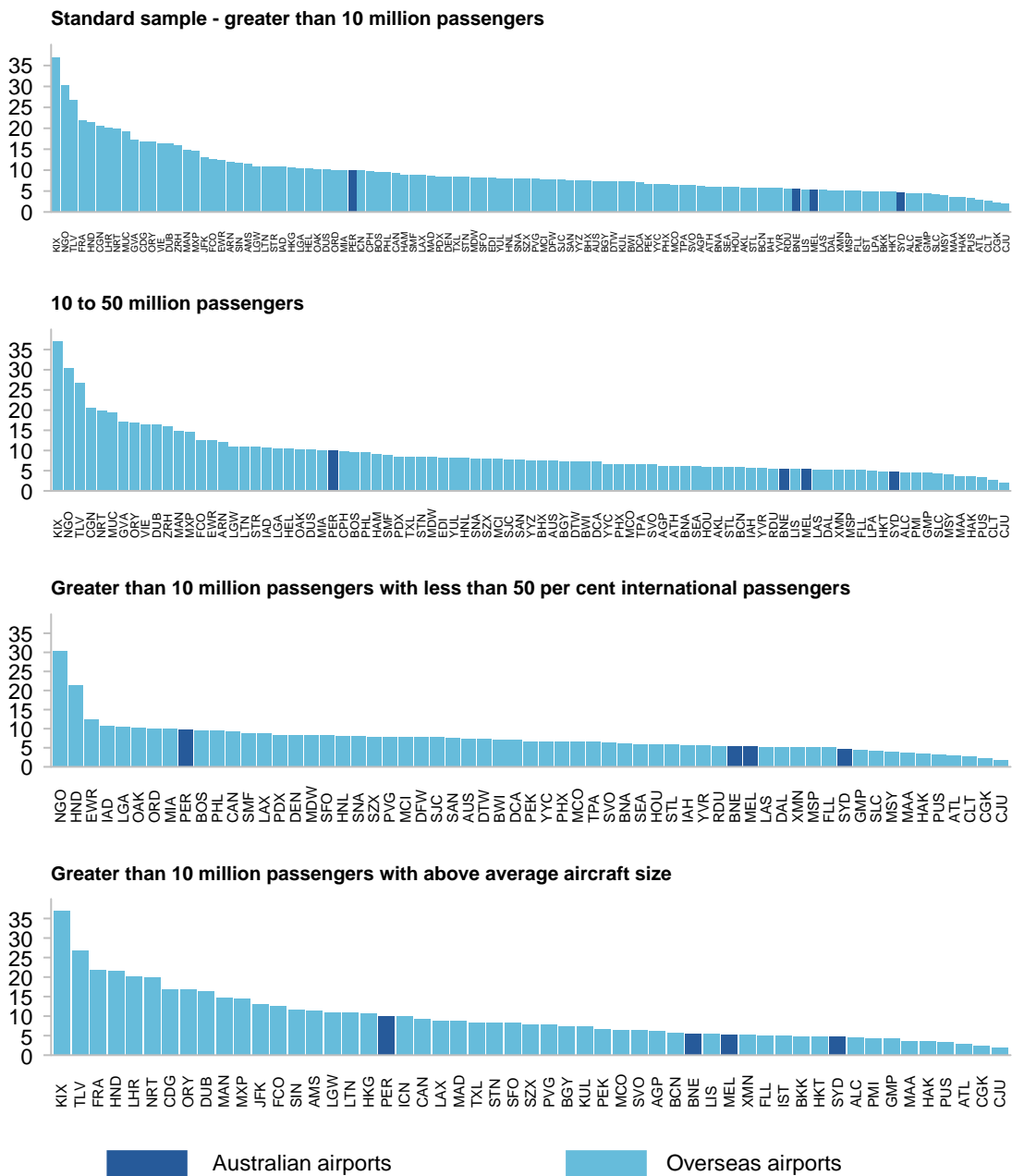- aeronautical revenue per passenger (figure 5.9).

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.

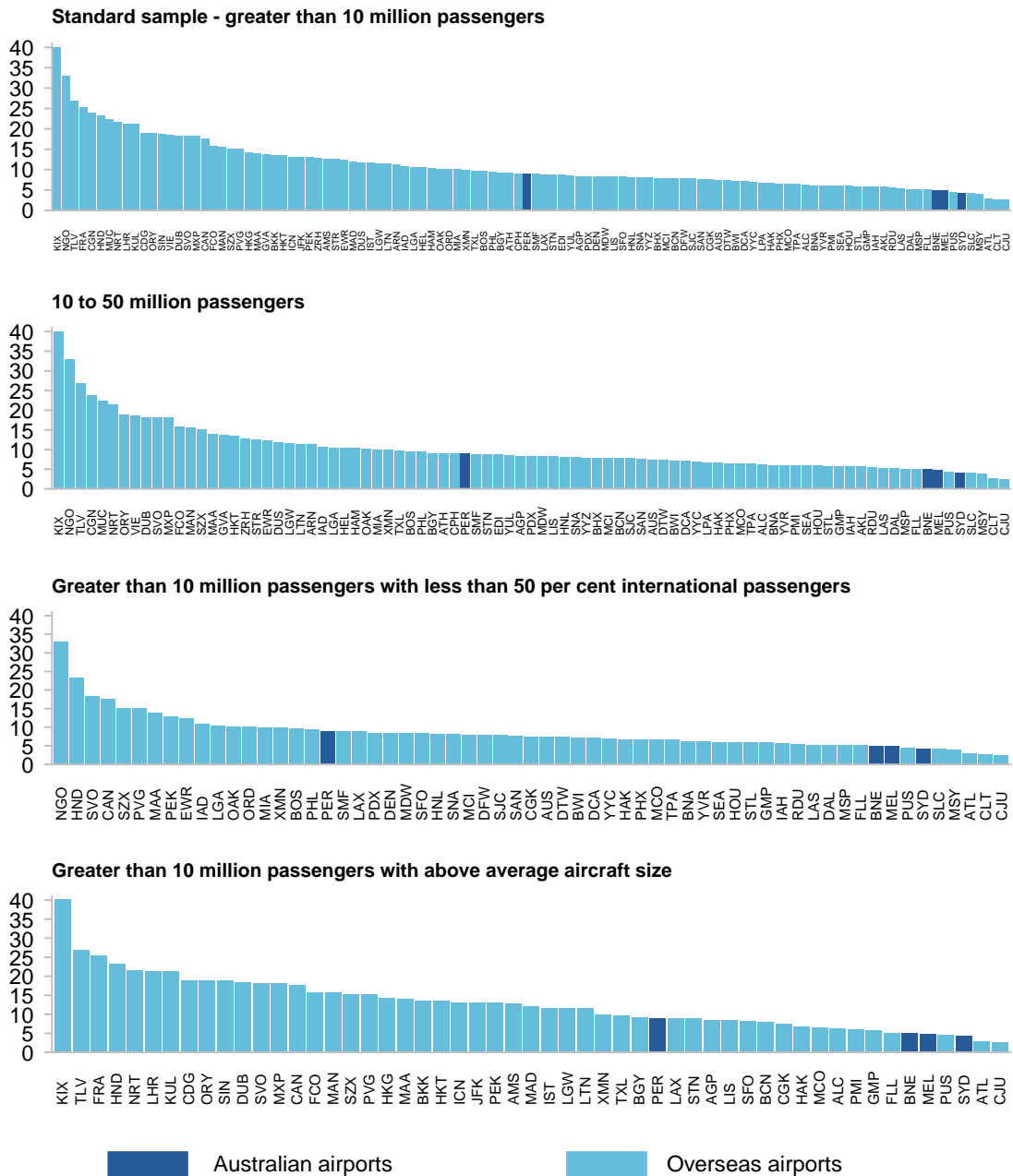## Figure B.1 **Whole-of-airport operating costs per passenger – Nominal USD[a,b]**

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

■ Australian airports   ■ Overseas airports

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).

Figure B.2   Whole-of-airport operating costs per passenger – PPP USD[a,b]

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size
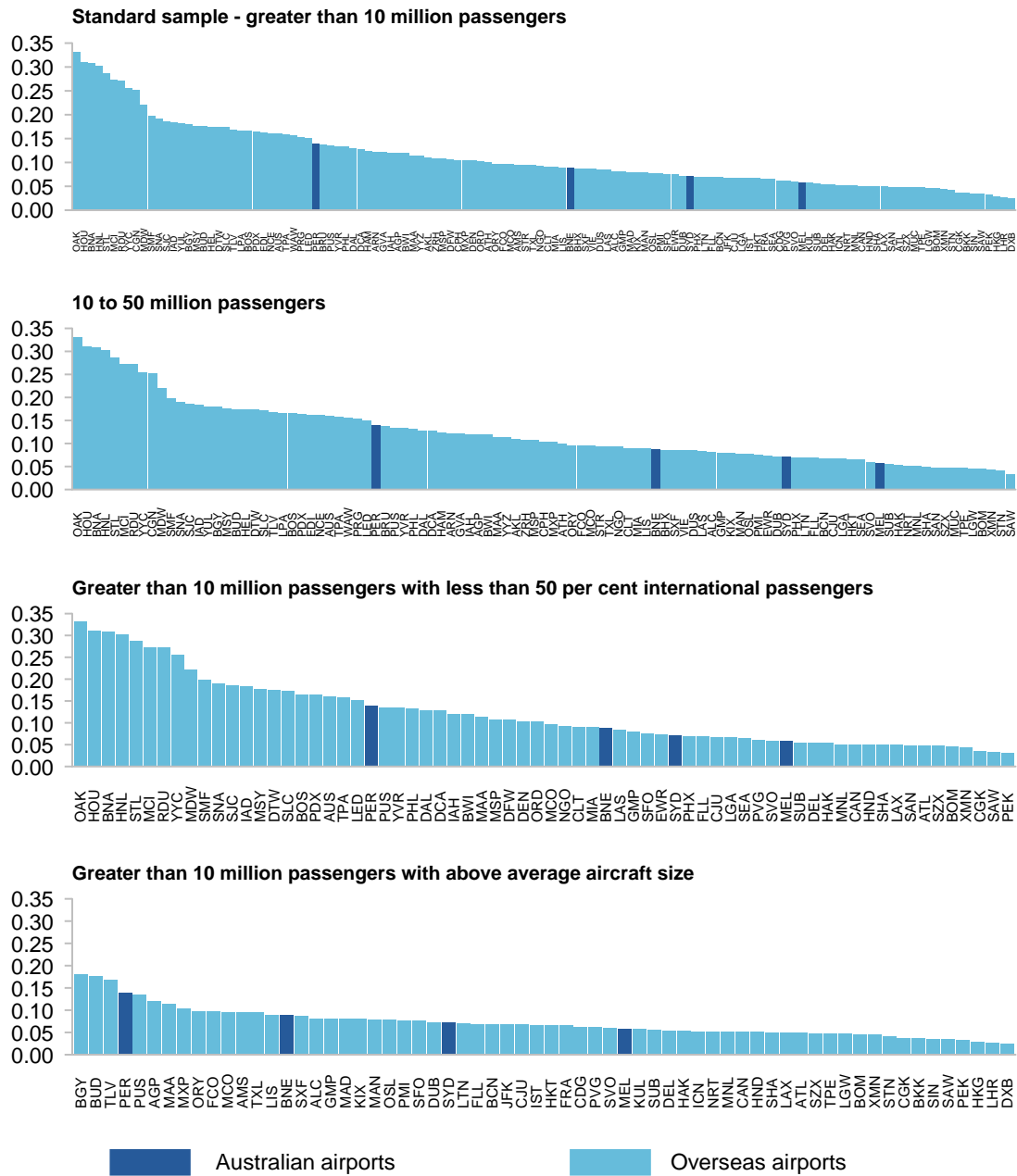
■ Australian airports   ■ Overseas airports

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).

Figure B.3   **Runways per million passengers[a]**

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

■ Australian airports   ■ Overseas airports

a Passenger numbers for Australian airports are sourced from the ACCC monitoring report.

Source: Commission estimates based on ATRS (2018) and ACCC (2018).
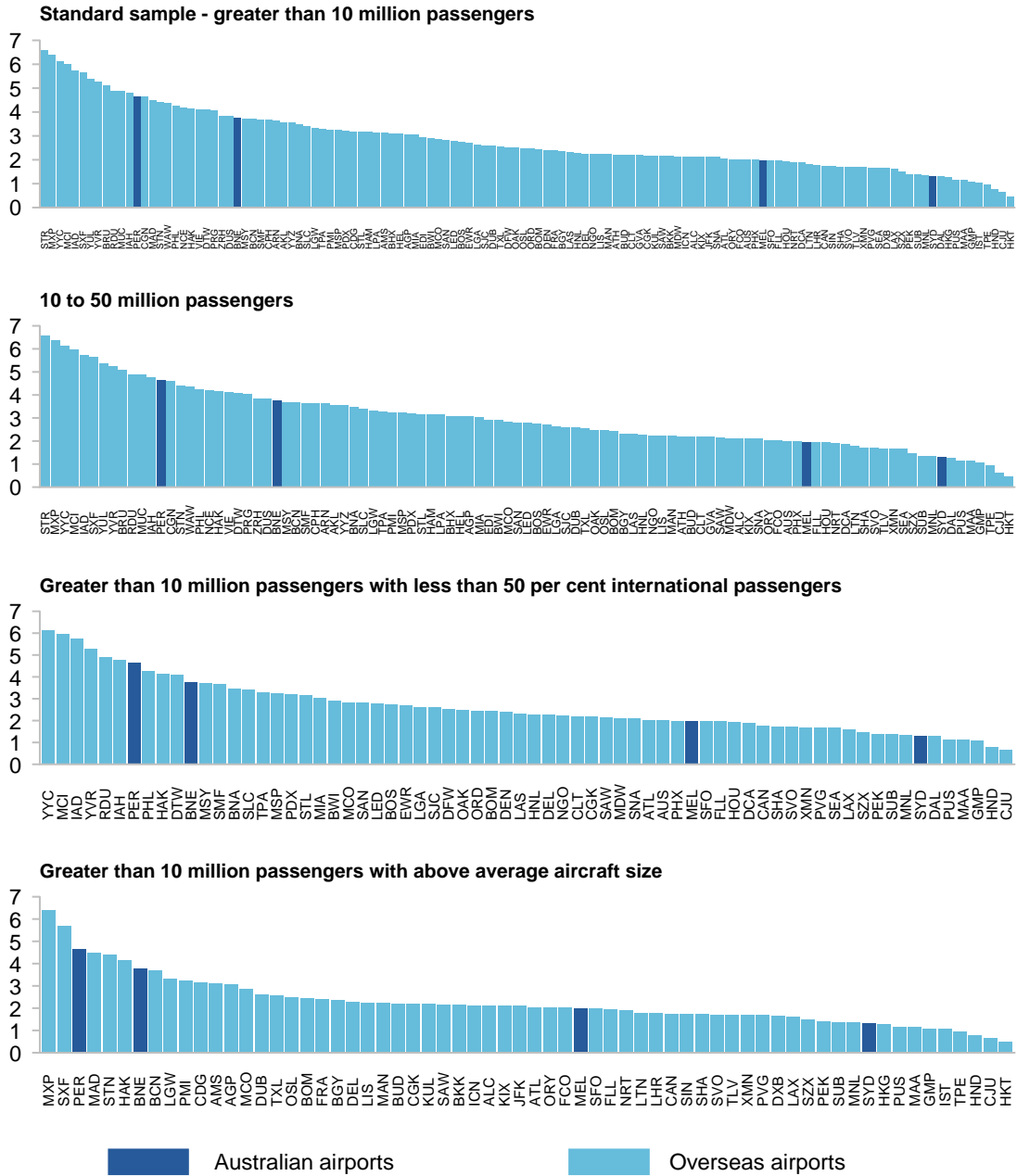
Figure B.4   **Gates per million passengers[a]**

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

Australian airports   Overseas airports

a Passenger numbers for Australian airports are sourced from the ACCC monitoring report.

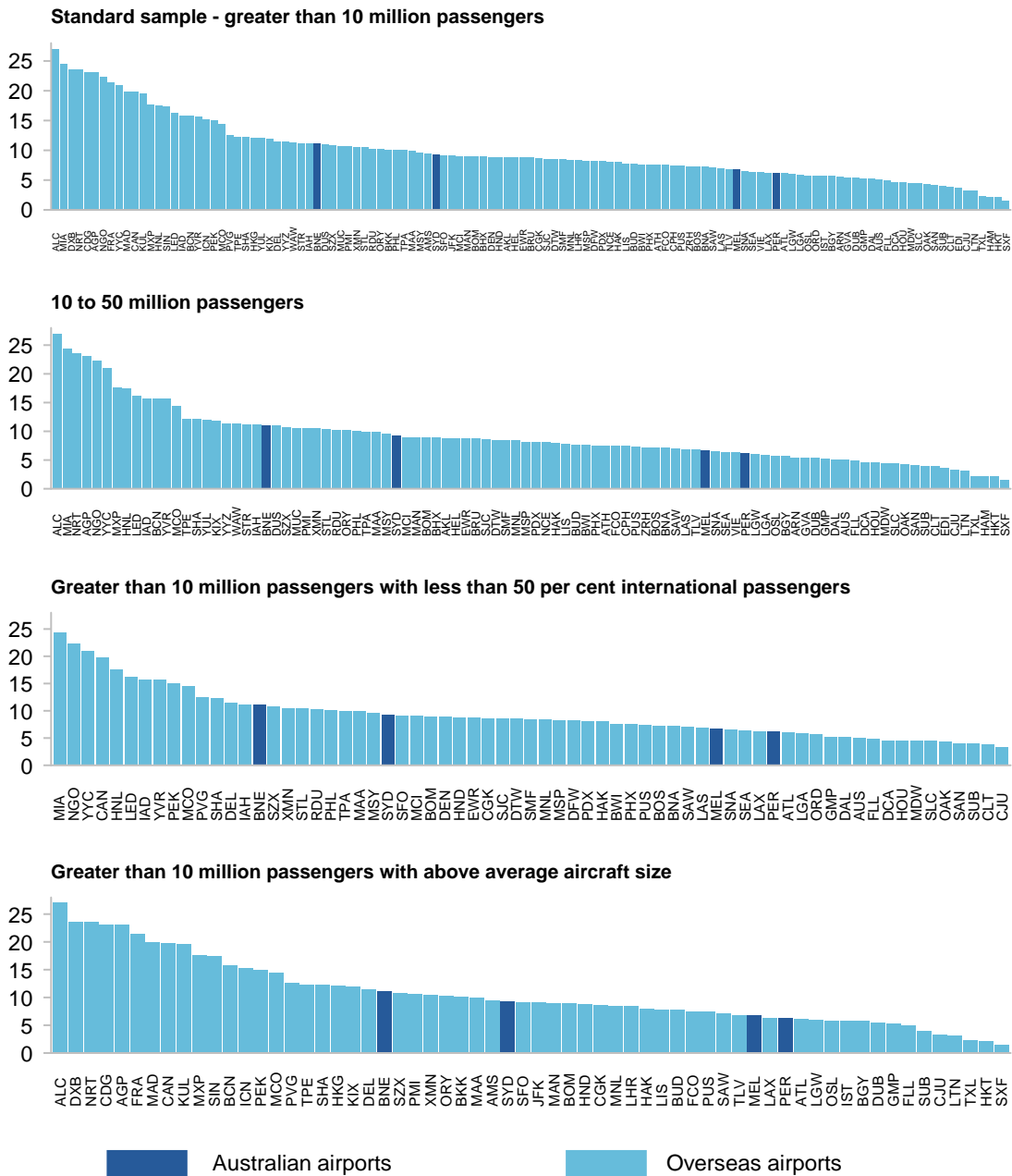*Source*: Commission estimates based on ATRS (2018) and ACCC (2018).

Figure B.5 Terminal area ('000 square metres) per million passengers[a]

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

■ Australian airports   ■ Overseas airports

a Passenger numbers for Australian airports are sourced from the ACCC monitoring report.

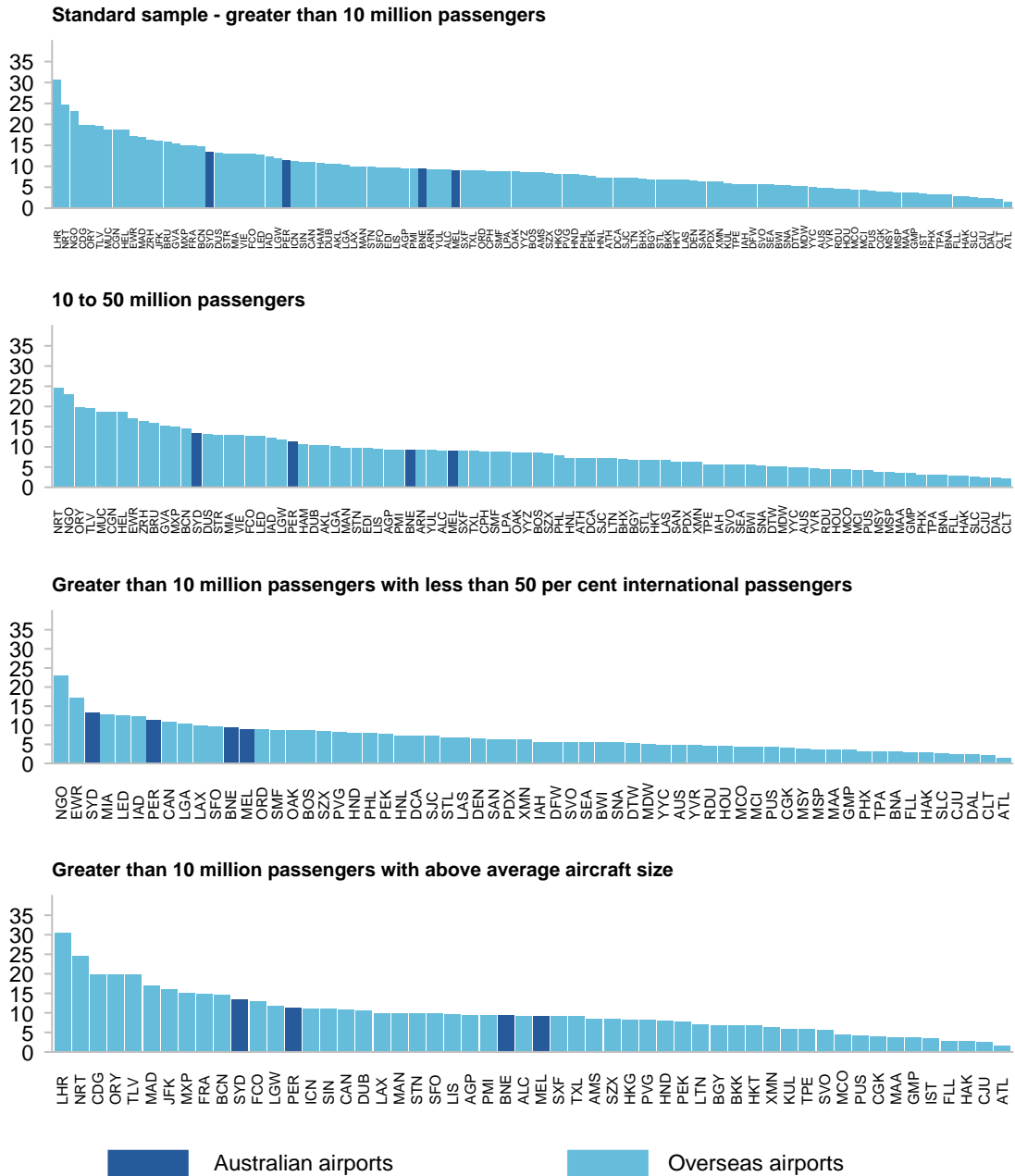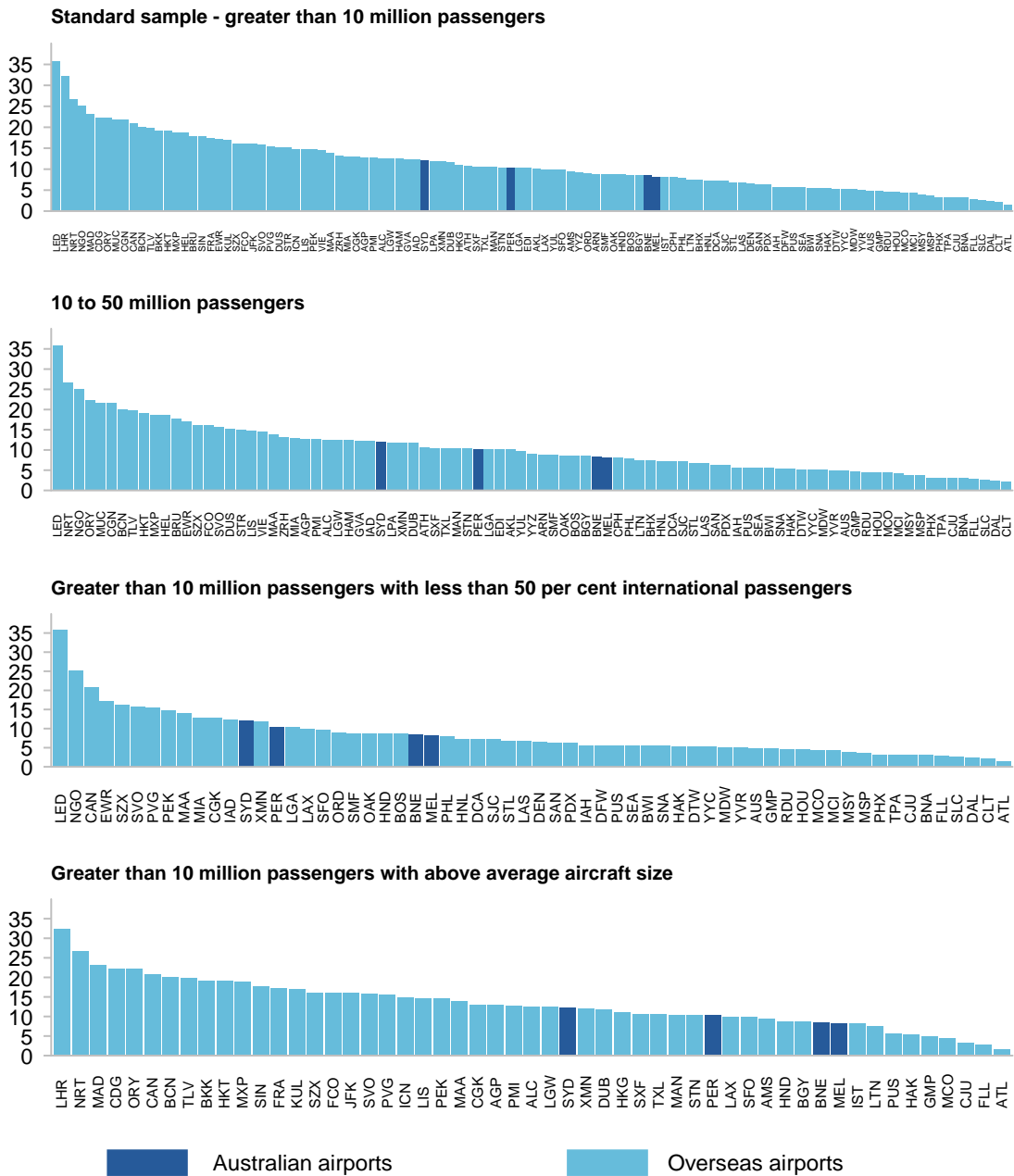*Source*: Commission estimates based on ATRS (2018) and ACCC (2018).

Figure B.6 Aeronautical revenue per passenger – Nominal USD[a]

Various airport samples, 2016

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

■ Australian airports   ■ Overseas airports

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

Standard sample - greater than 10 million passengers

10 to 50 million passengers

Greater than 10 million passengers with less than 50 per cent international passengers

Greater than 10 million passengers with above average aircraft size

■ Australian airports   ■ Overseas airports

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).

Table B.1   IATA airport codes

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

(continued next page)

Table B.1   (continued)

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

(continued next page)

Table B.1 (continued)

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

Source: ATRS (2018).