



Disclosure relating to the reset of aeronautical prices for the period 1 July 2017 to 30 June 2022

14 August 2017



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PART A: INTRODUCTION

A1: Background

- 1 On 19 June 2017 Christchurch International Airport Limited (**CIAL**) set its prices for the period 1 July 2017 to 30 June 2022 (**PSE3**). Those prices are set out at Appendix A.
- 2 In preparing its PSE3 prices CIAL had regard to the requirements of the Commerce Act (Specified Information Disclosure) Determination 2010 (**Determination**)¹ and feedback given by the Commerce Commission and CIAL's customers in:
 - 2.1 the Commission's 2014 report on the effectiveness of Information Disclosure, made under section 56G of the Commerce Act 1986 (**Act**);
 - 2.2 the Commission's 2015 summary and analysis of CIAL's revised PSE2 Information Disclosure, made under section 53B of the Act; and
 - 2.3 related correspondence.
- 3 CIAL's pricing decision was sent to airlines and the Commerce Commission, and was the outcome of seven months of extensive consultation with CIAL's substantial customers.² A full outline of CIAL's consultation process is set out at Appendix B.

A2: Disclosure

- 4 CIAL now discloses, alongside and within this document, information related to "specified airport activities" and CIAL's price setting event in accordance with the Determination (the **Disclosure**).
- 5 Note: "specified airport activities" covers more activities than those for which prices were set as part of CIAL's third price setting event. As such, this disclosure covers activities commonly described as "priced" (part of PSE3) and "non-priced". Charges for "non-priced" activities are individually negotiated with customers outside of the aeronautical pricing consultation on Standard Charges.
- 6 CIAL also provides some notes on the background to this disclosure – the regulatory regime and an overview of CIAL's business and key strategic objectives.

Availability of information

- 7 In accordance with the requirements of public disclosure, this disclosure and its related attachments:
 - 7.1 were preceded by the following notice in the *Gazette* on 10 August 2017: https://gazette.govt.nz/assets/pdf-cache/2017/final/2017-08-10_Gazette_80.pdf ;
 - 7.2 are available on CIAL's website: www.christchurchairport.co.nz;
 - 7.3 are available for inspection at CIAL's office between 8.30am to 5:00pm, Monday to Friday:

¹ As last amended on 20 December 2016 by NZCC Decision 29: Airport Services Information Disclosure Amendments Determination 2016.

² Consultation with substantial customers is required by section 4B of the Airport Authorities Act 1966.

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- 7.4 will be provided to the Commerce Commission by 21 August 2017; and
 - 7.5 will be provided to any person by post or for collection from CIAL's offices within 10 working days of a request.
- 8 CIAL will also supply a copy of this Disclosure to the Secretary of Transport, in accordance with section 56D of the Act.
- 9 CIAL will retain and continue to publicly disclose the information contained within for at least seven years from 14 August 2017, in accordance with paragraph 2.8 of the Determination.

PART B: OVERVIEW OF CIAL AS A BUSINESS

B1: Purpose and Vision

- 10 CIAL recognises the importance of its role as the primary gateway for the South Island and its core purpose of “Championing the South Island”.
- 11 The regional and leadership activities at CIAL make a significant contribution to the social and economic wellbeing of the communities and economies of Christchurch, Canterbury and in regional social and economic development of the South Island.
- 12 In particular, CIAL provides a 50:1 multiplier for the communities it serves. For every dollar Christchurch International Airport (**the Airport**) generates, the wider economy receives \$50 of economic value.
- 13 Visitors arriving at the Airport distribute themselves through the South Island region better than visitors arriving at any other New Zealand airport, and over 74% of international visitors to New Zealand are destined for regions of the South Island. CIAL has invested to established “South”, an initiative, which sees all South Island regional tourism organisations and major tourism operators working collaboratively in tourist markets to coordinate the efforts of the South Island to make sure these visitors are well catered for and the regional economic upside is realised.

B2: CIAL’s key focus areas

- 14 CIAL’s key focus areas include passenger satisfaction, sustainability, and innovation. We expand briefly on each below.

Passenger satisfaction

- 15 CIAL’s integrated terminal was opened in April 2013 to create an efficient terminal that places service quality and customer experience at its centre. The Airport includes a new integrated terminal, with an integrated check-in hall, integrated baggage system, and swing gates and lounges able to switch between domestic and international services. Passenger satisfaction is of a high level at the Airport and CIAL commissions quarterly benchmark surveys from an independent international agency. These reports provide information to better understand:
- how passengers rate an airport’s services;
 - how an airport compares to others in its region and globally by traffic type, size, region, etc.;
 - which aspects are of particular importance for a specific airport; and
 - how passenger’s perceptions and priorities are evolving over time.
- 16 CIAL consistently ranks as the best of nine major Australasian airports across a number of service categories. CIAL was ranked first in 26 of the 33 categories for Q1 2017.
- 17 CIAL values this feedback. Excellence in customer service delivery is an imperative for CIAL and one of the key performance measures on CIAL’s journey to becoming a “Champion Airport”.

Sustainability

- 18 CIAL's approach to sustainability is centred in the Maori concept of kaitiakitanga (responsibility, care and guardianship). CIAL's focus is to seek out, develop and implement enduringly sustainable processes for its business and the Airport. CIAL's sustainability strategy sees CIAL focus its efforts on five key pillars of the airport – Water, Energy, Waste, Land & Noise. Examples of some of CIAL's key achievements in this area include:
- 18.1 CIAL has embarked on a project to facilitate ground based power at certain gates. These ground based units can be used to power transiting domestic jet aircraft, allowing them to cease using their on-board Auxiliary Power Units, and electric aircraft tugs (which over time will replace diesel powered tugs). This will reduce climate change emissions, aircraft fuel usage and will lower airlines' operating costs at the Airport.
 - 18.2 CIAL is constantly assessing how it can reduce energy consumption at the Airport and by its users and customers. The terminal building has an internationally recognised highly efficient artesian water heating and cooling energy centre and has set up continuous monitoring of terminal building energy consumption.
 - 18.3 CIAL has set an objective to divert 55% of all Airport waste away from landfill by the end of 2020, in order to reduce the impact of waste on the environment and encourage efficient recycling.

Innovation

- 19 CIAL's innovation focus has two limbs:
- 19.1 CIAL has a strong focus on facilitating innovation by airline customers, both by working with its customers on operational innovations and by setting its prices in a way that facilitates innovation. CIAL's consideration of innovation in setting its PSE3 prices is discussed in Part F below.
 - 19.2 CIAL also focuses on its own innovation, and will concentrate on advances in digital technology (specifically automation, artificial intelligence and virtual/augmented reality). These advances present almost limitless opportunities to redefine our relationship with passengers and users of the Airport.
- 20 Examples of CIAL's recent innovations include:
- 20.1 Encouraging and harnessing innovation that will allow airlines to flexibly switch between domestic and international services through the use of "swing" gates and lounges.
 - 20.2 CIAL is planning a new self-service bag drop facility and common use check-in kiosks to be implemented in the check-in hall during PSE3.
 - 20.3 CIAL is undertaking a two year trial of a fully autonomous electric shuttle, the first of its type in New Zealand. This trial which aims to understand the infrastructure and operating requirements of autonomous vehicles when used at the airport is hopefully the first step in developing information that supports and demonstrates (including to relevant regulatory bodies) the

safety of autonomous vehicles for use at the airport, to increase connectivity and the efficient use of CIAL's airport campus.

- 20.4 During 2014 CIAL's Airfield Pavement Maintenance Works (**APMW**) project team implemented two ground-breaking technology enhancements, implementing a new pavement conditioning system and (for the first time in New Zealand) treating asphalt surfaces with Gilsonite – a life enhancing pavement preservation treatment.

Following these technology enhancements, and the APMW team's selection and design of construction materials, CIAL forecasts a reduction of \$45 million in the APMW budget over the next 20 years.

PART C: SUMMARY OF CIAL'S SECOND PRICING PERIOD

C1: CIAL's experience

- 21 CIAL's previous pricing period (**PSE2**) ran from 1 December 2012 to 30 June 2017. Key outcomes in this period were:
- 21.1 CIAL experienced a reduction in demand during PSE2 compared to what had been predicted, based largely on the timing of the Christchurch Earthquake recovery. CIAL's passenger growth is now positive, due in part to recovery initiatives at the Airport.
- 21.2 Airlines modified their fleets significantly from what had been expected during PSE2 pricing consultation. In particular, during PSE2 airlines increased the number of turboprop aircraft used and decreased the number of jets.
- 22 In parallel, CIAL removed \$16m in allowable revenue permanently to recognise post-earthquake challenges and deferred \$19m of allowable revenue through to future pricing periods through its 20 year levelised price path approach (discussed in the next section). CIAL is not seeking to recoup this \$16m or any of the PSE2 under-recoveries noted in paragraph 21 above.

C2: Regulatory engagement

- 23 After setting its PSE2 prices, CIAL engaged in two regulatory processes:
- 23.1 First, under section 56G of the Act the Commission assessed and reported to the Ministers of Commerce and Transport on how effectively the Information Disclosure regime is promoting the purpose of Part 4 of the Commerce Act. The Commission's report was finalised in February 2014.
- In response to the Commission's findings and in order to increase transparency, CIAL then re-disclosed its PSE2 prices on 19 December 2012.
- 23.2 Second, under section 53B of the Act the Commission analysed and summarised CIAL's second PSE2 disclosure.
- 24 The Commission and CIAL's customers requested that CIAL increase transparency, and expressed concerns over the complexity and transparency of CIAL's then-approach to depreciation (which set prices based on a 20 year levelised price path). The Commission also identified that CIAL's 20 year approach may result in CIAL extracting excessive profits in future pricing periods.
- 25 CIAL has taken account of this feedback in setting its PSE3 prices. In particular, CIAL has:
- 25.1 aligned its pricing asset base where possible with its regulated (disclosure) asset base, in order to increase transparency and align CIAL's price setting exercise with the process the Commission will undertake in assessing CIAL's returns; and
- 25.2 used a tilted annuity method of depreciation. This method was chosen with expert input from Incenta Economic Consulting (**Incenta**), and is supported by CIAL's substantial customers, and is intended to increase transparency compared to the 20 year levelised approach used in PSE2.

- 26 These points are expanded on in more detail in Parts D and G.
- 27 The Commission also found during the section 56G and section 53B processes that Information Disclosure had been effective in promoting incentives for CIAL to innovate and provide services at a level of quality reflecting consumer demand. As above, innovation and passenger satisfaction remain key focuses for CIAL in PSE3.

PART D: INPUT METHODOLOGIES AND INFORMATION DISCLOSURE REGIME

D1: Overview of the regime

- 28 CIAL is governed by the Input Methodologies regime, which influences how CIAL calculates its allowable revenue, sets prices, and makes public disclosures. Under the Input Methodologies regime:
- 28.1 specific guidance is established by the Commerce Act (Specified Airport Services Input Methodologies) Determination, explaining how airports ought to calculate (for the purposes of pricing) certain inputs such as cost of capital and depreciation;
 - 28.2 airports are required by the Airport Services Information Disclosure Determination to disclose information on costs and profitability in accordance with the Input Methodologies annually and following a price setting event (this being one such disclosure); and
 - 28.3 the Commerce Commission is required by section 53B(2)(b) of the Commerce Act to publish a summary and analysis of information disclosed for the purposes or promoting understanding of airport performances.
- 29 Profitability is then assessed using the Input Methodologies to calculate the Airport's costs and a reasonable rate of return.

D2: Effect of the regime

- 30 In practice this means (and the Commission expects) that airports have a strong incentive to calculate allowable revenue and set prices based on the methods set out in the Input Methodologies, to match the Commission's expectations. This is known as the "building blocks approach".
- 31 The effect of the Input Methodologies regime is that the Commission, airports, and airlines have reasonable certainty about how regulated asset bases are defined and allowable revenue is calculated. As the Commission identified in its recent review of the Input Methodologies:³

The IMs are an important input to regulation under Part 4. The purpose of IMs is to provide certainty to both regulated suppliers and consumers about the rules, requirements and processes applying to Part 4 regulation. A stable and predictable regime provides suppliers and investors in regulated firms with the confidence to invest in long-lived infrastructure that provides essential services to all New Zealanders.

- 32 The Input Methodologies are an important input to regulation under Part 4. The purpose of IMs is to provide certainty to both regulated suppliers and consumers about the rules, requirements and processes applying to Part 4 regulation. A stable and predictable regime provides suppliers and investors in regulated firms with the confidence to invest in long-lived infrastructure that provides essential services to all New Zealanders.

³ Commerce Commission, *Input Methodologies review decisions: Summary paper* (20 December 2016) at [6].

D3: Alignment of pricing with the Input Methodologies regime

- 33 CIAL has chosen to align its PSE3 pricing with the Input Methodologies/Information Disclosure regime, putting both processes on the same footing and allowing better assessment of CIAL's performance. CIAL engaged Incenta to assist in doing so and to provide independent advice.
- 34 This approach was a clear preference of the Commission and airlines during the Commission's recent review of the Input Methodologies. For example, the Commission has stated:

The disclosures relating to forecast total revenue requirements are intended to align with airports' price setting processes. These disclosures provide key planning assumptions behind the setting of airports' revenue requirements, and include supporting information about proposed capital expenditure, operational expenditure and demand information. The historical financial disclosures also reconcile forecasts with actual annual outcomes.⁴

Airports are required to consult with "substantial customers" as part of their process of amending prices for airport activities. These airport activities align with the 'specified airport services' identified in the Act.⁵

D4: Details of CIAL's approach

- 35 CIAL has been guided by the Information Disclosure regime when developing its aeronautical pricing decision. The details of CIAL's alignment and Input Methodology-consistent approach to pricing are as follows:

- 35.1 **RAB**: CIAL has aligned (where possible) its pricing asset base with its regulated asset base (**RAB**), thus aligning the asset bases used for annual disclosure, price setting, and price setting event disclosure. Doing so:
- (a) means that CIAL set its PSE3 prices based on its regulated asset base as defined by the Input Methodologies; and
 - (b) increases transparency by aligning the two asset bases, and selecting a pricing asset base already defined in the Input Methodologies and well understood.

In PSE2 CIAL's substantial customers and the Commission both noted the importance of CIAL maximising the transparency of its pricing and disclosures.

- 35.2 **Asset allocation**: As per the Input Methodologies regime, CIAL has excluded areas used for commercial (non-disclosure) activities and further excluded curtilage around those areas. The remaining area is used to provide regulated services.
- 35.3 **WACC**: CIAL calculated its WACC using the methodology set out in the Input Methodologies and the Commission's most recent published inputs, except in relation to two inputs (discussed specifically from paragraph 81 below). This approach effectively takes the independent regulator's best estimate of a reasonable rate of return and adjusts it in two cases for CIAL's specific circumstances.

⁴ Commerce Commission *Input methodologies review decisions - Topic paper 5: Airports profitability assessment* (20 December 2016) at [62].

⁵ Ibid at [625].

PART E: CIAL'S LONG TERM PRICING OBJECTIVES

- 36 In the context of pricing, CIAL's long term objective is to increase the productivity and efficient use of its existing assets, without the need for substantial additional capital costs.
- 37 CIAL's objectives therefore fall into three categories:
- 37.1 increasing the productivity and efficient use of the existing terminal asset;
 - 37.2 ensuring CIAL is innovative itself, and facilitates and is open to others' innovation; and
 - 37.3 being transparent through a simplified price structure, asset base and method of depreciation.

E1: Productivity and efficiency

- 38 Productivity and efficiency is CIAL's primary long term goal and a key focus of Part 4 of the Commerce Act and the Information Disclosure regime. CIAL's approach to PSE3 prices reflects this primary goal, in particular through single per passenger prices as discussed in more detail in Part F.
- 39 In 2005 CIAL committed to building a new integrated terminal to meet the demands of consumers, growth in tourism, and to reflect the Airport's role as a gateway to the South Island.
- 40 The integrated terminal was designed to provide increased productivity into the future, without the need for substantial additional capital expenditure, through its ability to "swing" between domestic and international services. CIAL intends to further utilise the integrated nature of the terminal to serve growing and changing demand and improve passenger service and experience, without the need for significant capital expenditure.

E2: Innovation

- 41 In Part C above we outline some of the key innovation steps taken and being taken by CIAL during PSE3. In Part F below we outline how innovation is facilitated by CIAL's PSE3 price structure.

E3: Transparency and simplicity

- 42 We discuss in more detail throughout Parts F and G how CIAL's approach to PSE3 is transparent and simple.

PART F: PSE3 PRICE STRUCTURE

F1: Per passenger prices

- 43 CIAL's primary goal is increasing the productivity and efficient use of its existing assets.
- 44 Accordingly, CIAL proposed setting its PSE3 prices on a per passenger basis. Per passenger pricing was strongly supported by BARNZ and Qantas Group throughout consultation and CIAL eventually did set its PSE3 prices on a per passenger basis.
- 45 Per passenger prices allow CIAL to increase and incentivise flexible and efficient use of its airfield and terminal. They also increase simplicity of prices and align CIAL's and airlines' interests.

F2: Airfield prices

- 46 CIAL has set one per passenger airfield price for PSE3. Moving to a single per passenger airfield price has a number of benefits. In particular, CIAL's prices will not:
- 46.1 send perverse signals about which types of aircraft airlines should use on CIAL's airfield. Airlines will be free to innovate in choosing and changing their fleets; or
 - 46.2 use weight breaks between different types of aircraft, where bands of prices might arbitrarily differentiate on the margins between similar aircraft. Prices that apply to passengers, rather than seats, leave airlines free to be flexible with their fleet decisions.
- 47 CIAL's analysis shows that the cost difference to CIAL between different types of aircraft using CIAL's airfield is minimal and, as such, any cost-reflective pricing differences that would occur as a result of aircraft-specific airfield pricing would not meaningfully impact airlines' incentives.
- 48 During consultation Air New Zealand raised several concerns with CIAL's proposed pricing, whereas BARNZ and Qantas Group supported it. As BARNZ explained, CIAL's price structure "avoids arbitrary distinctions... that are not based on technical, operating or economic grounds."
- 49 CIAL considered the feedback from airlines and expert advice from Incenta, and ultimately agreed with BARNZ and Qantas Group. In general, airlines' fleet decisions have little effect on CIAL's forward-looking costs, and CIAL's price structure is efficient as it avoids influencing airlines' fleet decisions. CIAL's airfield prices are also within the "subsidy-free" bounds as defined by economic principles.
- 50 Given this analysis, CIAL chose to set its airfield prices on a transparent and simple per passenger basis; a basis that would be forward-looking and efficient, and remain indifferent to airlines' fleet decisions.

F3: Terminal prices

51 CIAL's Regional Lounge facility is subject to commercial arrangements with Air New Zealand. Accordingly, CIAL set a standalone terminal price for regional services, as contemplated by those arrangements.⁶

52 CIAL intends over PSE3 to increase the integration of its terminal, and encourage and harness innovation that will allow airlines to flexibly switch between domestic and international services through the use of "swing" gates and lounges. Doing so will maximise the efficient use of CIAL's terminal without incurring substantial additional capital costs.

53 On this basis and supported by economic cross checks, CIAL's long term intention is to charge a single price for non-regional terminal services, to apply to domestic and international passengers. A single terminal price will:

53.1 meet the appropriate economic tests, ensuring passengers are paying for the forward-looking efficient costs they use; and

53.2 leave CIAL neutral as to where a passenger is travelling to or from, avoiding arbitrary distinctions between passengers.

Price transition

54 CIAL initially proposed setting a single terminal (non-regional) price in the manner described above for all of PSE3. This approach was strongly supported during consultation by BARNZ and Qantas Group.

55 However, Air New Zealand gave feedback that the change to proposed PSE3 prices for regional passengers was significant and could impact regional passenger numbers. As a result, CIAL proposed and eventually implemented an even annual transitional path from FY17 prices to FY22 prices for the two prices changing meaningfully from PSE2 to PSE3 – regional and international. By FY22 the domestic (non-regional) and international prices will be the same, as CIAL intends for the long term. Again, CIAL's prices are within the "subsidy-free" bounds as defined by economic principles.

F4: Impact of PSE3 price structure

56 CIAL's PSE3 price structure involves a re-balancing of prices compared to PSE2. Key features of the rebalancing (that, as above, will occur over time up to FY22) are:

56.1 prices for international passengers are substantially reducing over PSE3 when considered at a per passenger level;

56.2 domestic prices for non-regional services remain reasonably similar to PSE2; and

56.3 prices for regional services are increasing over PSE3, largely as a result of CIAL's long term price structure taking full account of terminal services provided in conjunction with the Regional Lounge.

⁶ This price applies to Air New Zealand in conjunction with a fixed annual lease payment also agreed under the Regional Lounge arrangements.

F5: Method applied to calculate prices

- 57 This section explains how CIAL has calculated the prices for the airfield and terminal prices described above, given the revenue requirement that is discussed in the next chapter.
- 58 CIAL applied the following process to derive its proposed *airfield* prices from the airfield portion of CIAL's allowable revenue:
- 58.1 First, the annual airfield allowable revenue was allocated between passenger aircraft and non-passenger aircraft on the basis of the share that each contributes to the aggregate annual MCTOW at the Airport.
 - 58.2 Second, the airfield price - *passenger aircraft* was calculated by deriving the CPI-indexed price per passenger that would generate a present value of revenue equal to the revenue requirement, given the forecast of passengers over PSE3.
 - 58.3 Third, the airfield price - *non-passenger aircraft* was calculated by finding the CPI-linked price per MCTOW (landing and taking-off) that would generate a present value of revenue equal to the revenue requirement, given the forecast of non-passenger MCTOW over PSE3.
- 59 In relation to the *terminal prices*, as discussed above, CIAL applied a two-step process, which was:
- 59.1 First, to derive the prices under CIAL's initially-preferred price structure (as described above), which sets the price that is to apply for FY22 (the last year of PSE3), and
 - 59.2 Secondly, to apply a transition between current and the FY22 prices, under which the prices for passengers arriving or departing on regional services were reduced and the prices for international services were raised, compared to the prices derived in the first step above.
- 60 This section describes how the initially-preferred (first step) prices were derived. The calculation of the transition was described above.
- 61 The two prices in relation to terminal services (excluding check-in, which is considered separately below) calculated in the first step were as follows:
- 61.1 A terminal price for passengers arriving and departing on non-regional services, to recover:
 - (a) the costs of providing airside arrivals and departure areas (other than the Regional Lounge); and
 - (b) a portion of the costs of shared terminal infrastructure and the wider costs of providing all terminal services (for example, corporate overheads).

- 61.2 A terminal price for passengers arriving or departing on regional services, to recover:
- (a) costs that are dedicated to the provision of the Regional Lounge (but excluding costs that are separately recovered under the Regional Lounge lease between CIAL and Air New Zealand); and
 - (b) a portion of the costs of shared terminal infrastructure and wider costs of providing terminal services (e.g. corporate overheads) provided in conjunction with the Regional Lounge.
- 62 In order to facilitate the setting of the two prices described above (as well as the check-in prices which are described separately below), the capital and operating expenses that are associated with the use of the terminal building and associated plant for priced (terminal) services were further divided into the following cost pools:
- 62.1 areas dedicated to the Regional Lounge (but outside of the leased area);
 - 62.2 departure and arrival areas;
 - 62.3 the integrated baggage system;
 - 62.4 check-in hall (building);
 - 62.5 check-in facilities; and
 - 62.6 public and common areas.
- 63 The costs that are incurred to support the terminal and wider Airport operations that are allocated to the priced terminal services – namely administration, indirect maintenance / maintenance assets and infrastructure – were kept as separate cost pools.
- 64 The two terminal prices were calculated by:
- 64.1 First, deriving the revenue requirement attributable to the service, which was calculated as the sum of:
 - (a) the costs directly associated with the service (the first two of the line items in the list above); and
 - (b) a share of the joint/common terminal facilities and share of the costs associated with the wider terminal use in proportion to the passengers in question.
 - 64.2 Second, calculating an inflation-indexed price that is forecast to deliver revenue with the same present value as the revenue requirement (derived above) over the pricing period.
- 65 In relation to *check-in*, as discussed above, CIAL has set two prices for PSE3, which are as follows:

- 65.1 A *check-in hall price* that reflects a contribution from all customers for the provision of the check-in area (that is, the relevant part of the terminal building and an allocation of the associated plant infrastructure).
- 65.2 A *check-in counter price* for customers who use CIAL's check-in facilities, which recovers the cost of CIAL's dedicated check-in assets (such as the counters and baggage injection belts).
- 66 As with CIAL's other proposed prices, these prices have been derived such that an inflation-indexed price is forecast to deliver the same revenue (in present value terms) as the revenue requirement for the services in question, given forecast demand (which, in the case of check-in prices, is demand for departing passengers only). Implicit in the calculation of check-in prices is the assumption that all demand is paid for at the posted price.

F6: Revenue from specified airport activities not subject to the price setting event

- 67 CIAL also operates as a landlord in respect of the following activities, all of which fall within the scope of specified airport activities:
- 67.1 aircraft and freight services;
- 67.2 passenger terminal facilities (those not included in priced services, such as certain leases for airlines); and
- 67.3 small defined areas of airfield land.
- 68 The forecast revenue associated with these activities for PSE3 is as follows (\$million):

	2018	2019	2020	2021	2022
Aircraft and Freight Services	6.87	6.99	7.13	7.27	7.42
Passenger Terminal Facilities	4.96	5.02	5.09	5.16	5.23
Airfield Land	0.29	0.30	0.31	0.31	0.32
Total	12.12	12.31	12.53	12.74	12.97

PART G: APPROACH TO BUILDING BLOCKS

69 CIAL's general building blocks approach during pricing was to calculate its allowable revenue in line with the Input Methodologies regime, including aligning its pricing asset base with its disclosure RAB.

70 The effect of the Input Methodologies regime is that the Commission, airports and airlines have reasonable certainty about how regulated asset bases are defined and allowable revenue is calculated. Accordingly, the number of key issues and choices made is reasonably small.

71 In this section, we expand on key elements of CIAL's PSE3 building blocks model. More detail can be found in the attached disclosure schedules.

G1: Pricing asset base

72 CIAL has (where possible) aligned its pricing asset base with its RAB, aligning the asset bases used for annual disclosure, price setting, and price setting event disclosure. Doing so:

72.1 means CIAL has set its PSE3 prices based on its regulated asset base as defined by the Input Methodologies; and

72.2 increases transparency by aligning the two asset bases and selecting a pricing asset base already defined in the Input Methodologies and well understood. In PSE2 CIAL's substantial customers and the Commission both noted the importance of CIAL maximising transparency of its pricing and disclosures.

73 CIAL's substantial customers raised no concerns with CIAL's general RAB alignment approach. However, CIAL did receive feedback on specific parts of CIAL's RAB:

73.1 Air New Zealand requested that CIAL revert to the previous "building line approach" to the land to be included in CIAL's pricing asset base, excluding the new freight apron and the apron adjacent to Gates 32 to 35 often referred to as the "Antarctic apron".

73.2 Air New Zealand and BARNZ requested that CIAL allocate its first-floor landside part of the terminal 50/50 between commercial and regulated aeronautical activities (effectively excluding from the pricing asset base 50% of the first-floor landside area included in CIAL's RAB).

74 CIAL's final pricing decision was to include the relevant assets in its RAB and allocate them 100% to aeronautical activities. This retains CIAL's key objective of aligning its pricing RAB with its disclosure RAB and the Input Methodologies regime, and in CIAL's opinion best creates a transparent asset base.

75 This approach also means CIAL's price setting exercise was aligned with the process the Commission will take in assessing CIAL's returns.

Opening RAB adjustment

76 CIAL has identified an anomaly, limited to PSE2 only, related to the allocation of implied depreciation. To correct this anomaly CIAL has used an opening RAB adjustment in these PSE3 disclosures, under the mechanism the Commission added during its review of the Input Methodologies.

Detailed explanation of the anomaly

- 77 CIAL's PSE2 prices were set based on a long term levelised price path. Subsequent to the price setting, CIAL:
- 77.1 calculated the return of capital over PSE2 that would be generated by that price path (the "implied depreciation"); and
 - 77.2 applied that implied depreciation in disclosures.
- 78 The implied depreciation was an aggregate across the individual pricing assets (split between terminal and airfield).
- 79 This process and CIAL's application of the Information Disclosure requirements has created an anomaly which we expand on in this section. Two features of the Information Disclosure requirements, and CIAL's application of them, are relevant:
- 79.1 First, Audit NZ, CIAL's auditors advised that they interpret the Information Disclosure requirements as requiring implied depreciation to be allocated to the individual physical assets, including to assets that are shared between pricing and other activities (which is particularly significant for the terminal assets).
 - 79.2 Second, the Information Disclosure requirements require the allocation of costs associated with assets to be based on the physical utilisation of the asset in question.
- 80 The combination of these requirements meant that part of the effect of implied depreciation being lower than standard depreciation for pricing services flowed outside the pricing assets to the other activities that share the relevant assets. This anomaly has depressed the pricing share of the disclosure assets (and raised the share of the assets that is allocated to other activities).
- CIAL's correction: opening RAB adjustment*
- 81 CIAL has corrected this anomaly, using a carry-forward adjustment. This adjustment has been calculated as follows.
- 81.1 First, the RAB that would have been derived at the end of FY17 if the "implied depreciation" for PSE2 was allocated only to the relevant pricing assets was first calculated (this is referred to below as the "correct RAB"). This correct RAB, in turn, was calculated by:
 - (a) applying (standard) straight line depreciation to the individual assets, with the rolled-forward value thus calculated being the RAB for all non-pricing activities; and
 - (b) separately calculating the accumulated difference between (standard) straight line depreciation for the assets associated with pricing activities and the "implied depreciation" associated with those activities, and adding this accumulated difference onto the (standard) straight line depreciation value for the pricing assets to derive the correct RAB for the pricing assets.
 - 81.2 Secondly, projecting forward RAB for disclosure purposes to the end of FY17 in a manner that is consistent with the Input Methodologies.

81.3 Thirdly, calculating the difference between the correct RAB and the (Input Methodologies-consistent) disclosure value described above, and applying this difference as the closing carry-forward adjustment for PSE2. This carry-forward adjustment was separated into the major categories of service to facilitate pricing (hence, there are a set of adjustments, with the adjustments for some categories of service being positive and others being negative).

82 The set of carry-forward adjustments has been applied for disclosure purposes (including for price setting) as if the adjustments were physical assets, that is, applying the tilted annuity depreciation method. The remaining lives for the carry-forward adjustments were set at the approximate average remaining life for the underlying physical assets in the relevant category of service (meaning that the carry-forward adjustment will continue until the assumed life has been reached). The carry-forward adjustment for each service category, and the associated life of the carry-forward adjustment, is shown in the table below.

	FY17 - forecast disclosure RAB (excl. land)	FY17 - PSE2 consistent RAB (excl. land)	Difference / carry- forward adjustment	Life of carry- forward adjustment
Terminal (excl. check in)	187.78	197.82	10.04	20
Airfield	120.35	121.66	1.30	30
Check in (hall)	12.12	11.09	-1.03	20
Check-in (counters)	3.18	2.40	-0.78	10
Priced services RAB	323.42	332.97	9.55	
Regional lounge (leased)	10.49	10.54	0.05	20
Terminal non-pricing (incl. reg lounge)	24.84	22.90	-1.94	20
Airfield non-pricing	0.83	1.02	0.19	30
Aircraft and freight	9.96	9.92	-0.04	30
Disclosure RAB	369.54	377.35	7.81	
Non-disclosure	61.95	57.85	-4.10	20
Unallocated RAB	431.49	435.20	3.71	

83 The anomaly described above is limited to PSE2 only. CIAL's resolution is built into its RAB roll-forward – the starting point for PSE3.

Consultation with substantial customers

84 CIAL proposed this solution to its substantial customers during PSE3 pricing consultation. BARNZ requested "some form of independent auditing of this transition [from PSE2 to PSE3]", and so CIAL engaged Deloitte to review its RAB calculations and proposed adjustment. The Deloitte report was provided to CIAL's substantial customers.

85 As a result of the Deloitte report and CIAL's ongoing work, CIAL made several adjustments to its revised pricing asset base. CIAL's substantial customers provided no further feedback on CIAL's then-proposed opening RAB adjustment.

G2: Capex

86 CIAL's forecast PSE3 capital expenditure reflects CIAL's standard long range business planning processes and includes business as usual capex (which airlines gave no specific feedback on) and three major capital projects:

86.1 \$10.4m in capex for terminal reconfiguration, planned to increase the productivity and flexible use of CIAL's terminal without incurring substantial additional capex;

86.2 \$5m for further works to install jet ground power at remaining stands, as a key initiative in CIAL's sustainability focus; and

86.3 \$5m as a first step to install centreline lighting, a requirement for Cat 3 navigation which will enable low visibility aircraft operation.

87 CIAL's capex forecast also includes two minor projects: \$900,000 forecast for common bag drop stations and \$600,000 forecast for common check-in kiosks. These projects are a practical step in enabling airline customers to drive the efficient processing of passengers and baggage. While BARNZ opposed CIAL's proposed common use kiosks, Qantas Group supported this project. CIAL ultimately agreed with Qantas Group and decided to include the project for PSE3. CIAL notes that technology is changing and common check-in kiosks are a key part of CIAL assisting a move away from the traditional check-in counter model.

88 During PSE3 consultation CIAL also initially proposed \$20m in capital expenditure to extend its cross-wind runway. After consulting on this proposal, CIAL changed its proposal to a smaller extension, at \$12m, and then later decided to remove the extension capex from its building blocks model altogether.

89 CIAL also received feedback from airline customers on CIAL's proposed \$10.4m for terminal reconfiguration work. Airlines were concerned about a general trend of airports undertaking "ambitious" capital forecasts and the lack of specificity given over exactly when reconfiguration projects would be undertaken. CIAL recognised the airlines' concerns but remains confident that it will undertake the reconfiguration work contemplated within the forecast time period.

90 In accordance with the Input Methodologies CIAL will incorporate future capital projects into its RAB as those capex projects are commissioned. In terms of allocation:

90.1 the majority of capital works on the runway, airfield and aprons will be directly allocated to specified airport activities;

90.2 the majority of capital works on the terminal will be causally allocated to specified airport activities; and

90.3 other, minor capital works will be allocated appropriately.

G3: Depreciation

- 91 CIAL set its PSE3 prices using, and has used in this disclosure, a tilted annuity method of depreciation. This method was chosen with expert input from Incenta, and is intended to increase transparency compared to the 20 year levelised approach used in PSE2. CIAL's substantial customers supported CIAL's use of tilted annuity depreciation in price setting.

Requirements of Information Disclosure and the Input Methodologies

- 92 Tilted annuity is a "non-standard" depreciation method under the Input Methodologies. The Input Methodologies outline a standard depreciation method but the Information Disclosure Determination allows airports to depart from this standard method for disclosures (i.e. take a "non-standard" approach) as long as disclosures explain:

92.1 the non-standard depreciation approach itself;

92.2 how the approach meets the purpose of Part 4 of the Commerce Act (in sufficient detail for interested persons to assess it); and

92.3 the extent of customer disagreement with the approach, and the airport's response to any disagreement.

- 93 We set out these explanations below

Explanation of the approach

- 94 At a high level, under the tilted annuity approach, the depreciation allowance for each asset that is derived by the depreciation formula is consistent with producing a total "capital return" (i.e., the sum of the return on assets and the depreciation allowance) that increases over time at a pre-set rate (the tilt rate, which is one of the inputs that is selected). Thus, at least at the individual asset level, the method can be used to target a constant recovery of capital cost per unit of demand over time (i.e., this would result by setting the pre-set tilt rate equal to the expected rate of demand growth).⁷
- 95 The tilted annuity depreciation formula results in assets being depreciated once over the life of the asset in question (i.e., in common with the other standard formulas for depreciation). This implies that the method is NPV neutral compared to alternative depreciation methods.
- 96 CIAL will apply this method to assets for all purposes. In other words, the non-standard depreciation method will be applied to calculate depreciation for the underlying physical assets, irrespective of the use of the asset (commercial or pricing).

⁷ However, as prices reflect the recovery of all assets combined – including the replacement of assets – as well as non-capital costs, the constant per unit cost recovery at the individual asset level need not translate into a constant (real) price. For this reason, CIAL's choice of depreciation method and tilt factor were also based upon a testing of the expected outcomes for prices of the different depreciation methods.

- 97 The application of the tilted annuity depreciation method requires two inputs in addition to those required for standard depreciation, being a real discount rate and a real tilt factor.⁸ The inputs that CIAL has used to set prices and in disclosure are set out below. These inputs will be locked-in for the duration of PSE3.

Locked-in input	Value
Real discount rate	4.74%
Real growth rate	1.50%

- 98 A comparison of the annual outcomes for depreciation across all disclosure activities under the standard (straight line) and non-standard (tilted annuity) methods over the ten years from the commencement of PSE3 are as follows:⁹

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Standard (straight line) depreciation	32.50	30.37	31.84	33.69	32.53	33.43	33.73	33.35	34.20	32.91
Tilted annuity depreciation	21.08	19.70	22.05	24.65	24.40	26.26	27.13	27.77	29.06	28.53

- 99 A detailed explanation of the tilted annuity parameters CIAL has used is set out at Appendix C.

Reasons for applying the tilted annuity approach

Background: CIAL's approach in PSE2

- 100 In PSE2, CIAL set prices that were lower than would have resulted from an application of standard (straight line) depreciation. CIAL set prices in this manner because it had recently completed its integrated terminal project. In that context, the application of standard (straight line) depreciation would have generated:

100.1 a material increase in prices; but

100.2 with those prices then declining over time as the forecast utilisation was realised.

- 101 CIAL's objective, therefore, was to set a price path for PSE2 that was consistent with a more equitable (and efficient) spreading of costs over time. The mechanism that CIAL applied to implement this objective was:

101.1 First, to calculate the "levelised" (CPI-increasing) price that was forecast to recover the building block costs over a 20-year period and to set that price for the PSE2 period.

101.2 Second, to calculate the return of capital (depreciation) that was implied by that price path and apply that depreciation to update the RAB over time.

⁸ The version of the tilted annuity formula that CIAL has applied assumes that the RAB will be indexed annually for CPI, and the associated revaluation gains have been treated as income.

⁹ These depreciation amounts include depreciation on the carry-forward adjustment described above.

Benefits of CIAL's PSE3 approach

- 102 The main advantages of the tilted (or growing) annuity method are that:
- 102.1 the method can be applied to produce an appropriate price path (something not achieved by using straight line depreciation);
 - 102.2 there is guidance from economic theory for setting the size of the "tilt factor". In other words, if the objective is to generate a level price, then the growth in passenger numbers is a reasonable starting point, and so there is a reduced need to require a high degree of accuracy from long term forecasts compared to setting a long-term levelised price (i.e., the method applied in PSE2); and
 - 102.3 the method is a standard accounting concept of depreciation, meaning that given the inputs (written down value, remaining life, CPI and the pre-set tilt factor and discount rate), the method generates a rate that can be applied to individual assets to generate a depreciation allowance (with the overall allowance being the sum of the individual allowances), just like standard depreciation.

Alternative approaches considered

- 103 In deciding its approach to depreciation, CIAL considered the outcome of alternative depreciation methods (with assistance from Incenta), the most relevant being:
- 103.1 standard depreciation, being the default method;
 - 103.2 the outcome of again setting a levelised price applying the PSE2 method (this time for the remaining 15 years of the original 20-year period); or
 - 103.3 units of production depreciation (being a method that BARNZ has raised in past correspondence), in which the depreciation allowance in any year is set at the proportion of the expected lifetime use of the asset that falls within the relevant year.¹⁰
- 104 The analysis CIAL considered was set out in a report by Incenta and provided to substantial customers with the Initial Proposal. From that analysis, CIAL concluded that using a tilted annuity depreciation method with a pre-set tilt rate of 1.5 per cent sets a reasonable time path of prices over time (noting that such trends are inherently imprecise), while not exposing CIAL to unreasonable levels of stranded asset risk.
- 105 In terms of direct comparison between the different methods:
- 105.1 The tilted annuity method is forecast to generate:
 - (a) a materially smoother price path than straight line depreciation or units of production depreciation methods;¹¹ and

¹⁰ A modified version was applied whereby the real return of capital in any year was set at the proportion of expected lifetime use, which is a more back-ended version.

¹¹ This outcome for the units of production method is not unexpected – while the units of production method is designed to generate a smooth depreciation allowance per passenger, the tilted annuity method is designed to smooth the sum of the return on assets and depreciation per passenger, and so the latter smooths an additional component of the revenue requirement.

- (b) a trend that is smoother than the levelised price path if a period beyond the initial levelisation period is considered.

105.2 Across the terminal and airfield combined, the tilted annuity method produces a materially lower allowable revenue for PSE3 than either the straight line (-10%) or units of production method (-6%), and is materially the same as the levelised price path approach that was used to set PSE2 prices.¹²

Consistency with Part 4 of the Commerce Act

- 106 In the context of CIAL's assets, the tilted annuity depreciation method best meets the purpose of Part 4 of the Commerce Act because it:

106.1 is expected to generate a more efficient and equitable spreading over time of cost recovery for its assets (i.e., result in a deferral of some recovery of cost to periods when the use of its assets is higher);

106.2 is NPV neutral compared to alternatives, and so will not generate additional (and excess) returns; and

106.3 is a method that is simple and able to be transparently applied in the context of Information Disclosure, and avoid the issues with allocating "implied depreciation" that were encountered during PSE2, and so will advance the objectives of the Information Disclosure regime.

Extent of customer disagreement

- 107 CIAL proposed the tilted annuity approach to its substantial customers in its 16 November 2016 initial PSE3 pricing proposal. Air New Zealand and BARNZ both supported the approach, and Qantas Group (the only other submitter) made no comment.

Comparison to PSE2

- 108 As discussed in detail above, in PSE2 CIAL depreciated using a levelised price path over a 20-year period. CIAL proposed changing to the tilted annuity approach after considering feedback from the Commission and BARNZ.
- 109 Changing CIAL's depreciation methodology does not result in any windfall gains or losses for CIAL. Although it did so by reference to a long run price path, CIAL set its PSE2 prices for the four year and seven-month period ending 30 June 2017 only. CIAL did not lock itself into any particular method of depreciation for PSE3 onwards.

G4: WACC and forecast inflation

- 110 In setting its PSE3 prices CIAL used the Commission's inputs for all WACC parameters except CIAL's credit rating and asset beta. The approach effectively takes the Commission's best estimate of a reasonable rate of return and adjusts it in two cases for CIAL's specific circumstances.

¹² Note that the revenue requirement for the levelised price path requires (and depends upon) the cost of capital that is assumed for PSE4 and beyond. These figures presented below assume that the PSE3 cost of capital continues.

111 We explain CIAL's approach and reasons on credit rating and asset beta below.

Credit rating

112 CIAL has applied its own credit rating – BBB+ - to derive the debt risk premium in its WACC calculation for pricing purposes. In CIAL's view, a BBB+ credit rating is more relevant to CIAL's specific circumstances. In particular:

112.1 BBB+ is consistent with CIAL's "standalone" credit profile (i.e. the rating that ignores the effect of government ownership),¹³ despite that CIAL's gearing is not substantially higher than the Commission's benchmark.¹⁴

112.2 It is the standalone credit profile that is relevant to the estimation of WACC for pricing purposes. CIAL's actual credit rating factors in the potential for extraordinary government support in a case of adverse financial outcomes, so prices set based on CIAL's actual, rather than standalone, credit rating would implicitly incorporate an element of government subsidy.

Asset beta

113 CIAL has used an asset beta that is 0.05 higher than the asset beta for the average New Zealand airport calculated by the Commission, implying an asset beta of 0.65. CIAL's rationale is as follows:

113.1 A greater exposure to holiday / leisure travellers, such as CIAL has, is expected to result in greater systematic risk relative to the other New Zealand airports. In PSE2, CIAL applied an upward adjustment of 0.05 to the estimated asset beta for the average New Zealand airport, which was supported by BARNZ's expert adviser at that time.¹⁵

113.2 Proxy analysis undertaken by Incenta to assess systematic risk at airports in the Commission's sample also suggests that CIAL has a materially greater degree of systematic risk than the "average airport" in the Commission's sample. Incenta concluded that the 0.05 increment that CIAL applied to the average-airport asset beta appeared reasonable for PSE3.

Extent of customer disagreement

114 In relation to the debt risk premium, Air New Zealand disagreed with CIAL's use of its stand-alone credit rating for calculating its debt risk premium. It argued instead that it was appropriate for CIAL's WACC to factor in the benefit CIAL derives from its government ownership.

¹³ CIAL's standalone credit rating is BBB and actual credit rating (incorporating the effect of government ownership) is BBB+. However:

- CIAL's credit rating metrics currently support a BBB+ rating and there is potential for CIAL's standalone rating to be raised to BBB+ (as concerns previously expressed by the rating agency about a potential for increase in debt or the need to pay special dividends are assuaged).
- CIAL's actual credit rating (incorporating the effect of government ownership) consequently has the potential to be raised to A-.

¹⁴ CIAL's current gearing (expressed as debt / (debt + equity)) based on book value is just under 30%. Based on commercial enterprise value (thereby creating a level of gearing more consistent with the Commission's assumptions), CIAL's gearing would be approximately 21%.

¹⁵ CIAL also applied an asset beta for the average New Zealand airport that was 0.05 higher than the value the Commission calculated, which was not accepted by BARNZ's expert adviser. The Commission's estimated asset beta of 0.60 has been used as the value for the average New Zealand airport for PSE3.

- 115 In relation to the asset beta, Air New Zealand and BARNZ disagreed with the addition of an increment to the Commission's asset beta estimate. Their positions were supported by a series of memoranda from Dr. John Small.
- 116 Dr. Small advised that he believed there to be technical issues with the proxy beta that Incenta had undertaken. He also commented that his testing of the dataset (based upon his preferred specification) implied that the differences in the proxy asset beta did not satisfy conventional levels of statistical significance. Incenta disagreed with the suggested technical errors, but accepted that its analysis did not provide proof to conventional levels of statistical significance that CIAL's beta was higher than the average of the Commission's sample. However, Incenta also commented that this implied an evidentiary hurdle that was very high (and inappropriately so), and which was a hurdle that had not been applied universally in the Commission's calculation of the airport asset beta.

G5: Forecast operating costs

- 117 With the exception of incentives, CIAL forecast its PSE3 operating costs by:
- 117.1 starting with its budgeted FY18 and FY19 opex costs (these are projected at a granular level as part of CIAL's Business Plan, and further detail is provided in Appendix D); and
 - 117.2 increasing those costs in aggregate cost buckets for FY20 to FY22 at a pre-set rate (usually CPI).
- 118 The forecasts for incentives that have been applied reflect the expected incentive costs under existing agreements, with the decline in incentives over the period reflecting the cessation of agreements.
- 119 CIAL has derived its prices on the basis of recovering the operating expenditure allocated to the priced services, with the exception of the incentive costs. CIAL has, as a commercial concession, absorbed the cost of incentives under existing contracts (and that underpin its forecasts of demand).
- 120 During pricing consultation, airlines requested that CIAL review its opex forecasts. CIAL then reviewed its FY18 and FY19 opex (as part of its most recent internal budgeting round). That review confirmed CIAL's opex forecasts as now disclosed.
- 121 Substantial customers queried several specific categories of opex:
- 121.1 *Slot coordination*: Air New Zealand requested that CIAL review the level of slot coordination at the Airport. However current slot coordination arrangements were agreed by airports and airlines across New Zealand, not solely set by CIAL. CIAL decided not to review the level of slot coordination at the Airport at this time.
 - 121.2 *Quarantine waste disposal*: BARNZ requested information on quarantine waste disposal so that it could consider whether airlines supported the current arrangements or would prefer to make their own. CIAL could not disclose the contracted amount due to confidentiality, however CIAL is open to discussing options with airlines nearer the conclusion of the current contract (in FY20).

121.3 *Energy and cleaning*: BARNZ provided useful data on its expected changes to the electricity market over PSE3. CIAL decided to use its current budgeted costs for FY18 and FY19, increasing by CPI each year thereafter.

G6: Passenger demand

- 122 CIAL engaged Three Consulting to provide independent domestic and international passenger demand forecasts. The specific demand forecasts are set out in the attached disclosures. Airlines were supportive of CIAL's general approach to forecasting demand, and did not provide any alternative demand forecasts.
- 123 Some discussion was had around CIAL's international demand growth forecasts, with BARNZ and Qantas Group believing forecasts were conservative. CIAL and Three Consulting took these views into account but remain of the view that their international forecasts are accurate given current available information.

G7: Forecast unlevered taxation

- 124 Unlevered taxation has been calculated on the basis of the revenue that is forecast from specified airport services, on the assumption that all operating expenditure is deductible, and applying a calculation of tax depreciation consistent with the calculation performed for Information Disclosure (i.e., which applies IRD depreciation methods and rates). Tax depreciation for FY18 is slightly higher than tax depreciation reported for FY16 (\$19.4m c.f. \$16.9m), which reflects the contribution of the capital expenditure incurred in FY17.
- 125 Unlevered taxation for pricing is calculated on the same basis. Tax depreciation within the "specified terminal" category for assets in place before FY17 were allocated between the cost centres used for pricing based on the relative regulatory depreciation amounts. For capital expenditure from FY17, tax depreciation associated with individual assets was allocated using the relevant asset's asset allocator.

G8: Forecast revaluations

- 126 All assets have been escalated by forecast CPI inflation. The resulting revaluations have been treated as income for pricing purposes.
- 127 The forecast of CPI inflation over PSE3 has been derived applying the Commission's preferred method for forecasting inflation. This method involves applying the explicit forecasts of the Reserve Bank of New Zealand applied for the duration of those forecasts, and with a reversion to the midpoint of the Reserve Bank's target range for inflation (2 per cent) adopted thereafter. The forecasts applied for pricing reflected the Reserve Bank's inflation forecasts as presented in its February 2017 Monetary Policy Statement.
- 128 The revaluation gain forecast for FY18 (\$7.3m) is higher than the value reported in the FY16 disclosure statements (\$2.0m) largely because of the difference in the forecast of CPI inflation for FY18 compared to FY16 (1.39 per cent c.f. 0.42 per cent), but also reflecting the higher RAB.

APPENDIX A: CIAL'S PSE3 PRICES (EXCL GST)

Price	Method of pricing ¹⁶	FY18	FY19	FY20	FY21	FY22
Airfield prices (\$)						
Airfield price – passenger aircraft ¹⁷	Per arriving or departing passenger	4.75	4.83	4.93	5.03	5.13
Airfield price – non-passenger aircraft ¹⁸	Per arriving or departing MCTOW \$/tonne	8.22	8.37	8.54	8.70	8.88
Terminal prices (\$)						
Terminal price – international services ¹⁹	Per arriving or departing passenger	8.01	7.91	7.82	7.74	7.66
Terminal price – domestic services ²⁰	Per arriving or departing passenger	7.10	7.23	7.37	7.51	7.66
Terminal price – regional services ²¹	Per arriving or departing passenger	2.14	2.47	2.81	3.15	3.49
Check-in prices (\$)						
Check-in hall price	Per departing passenger	0.62	0.63	0.65	0.66	0.67
Check-in counter price	Per departing passenger ²²	0.41	0.41	0.42	0.43	0.44

All prices apply to aircraft operators, not passengers themselves.

¹⁶ In all cases, per passenger prices for services do not apply to infants younger than two years old.

¹⁷ "Passenger aircraft" means any commercial aircraft operated for the purpose of transporting one or more passengers to or from CIAL's terminal building (including the Regional Lounge) and adjacent apron. Passenger aircraft will typically exclude aircraft:

- operating for military, medical or Antarctic purposes;
- being used for general aviation (unless passengers are embarking or disembarking aircraft from the terminal building); and
- to the extent that they are only repositioning and not carrying passengers.

If you are unsure whether an aircraft (given a particular use or category or uses) will classify as a "passenger aircraft", please contact CIAL.

¹⁸ "Non-passenger aircraft" means any aircraft that is not a passenger aircraft.

¹⁹ The *terminal price – international services* applies to any passenger arriving from, or departing to, any international destination.

²⁰ The *terminal price – domestic services* applies to any non-international passenger:

- arriving from, or departing to, Auckland or Wellington; or
- boarding or disembarking any aircraft through CIAL's first floor integrated terminal.

²¹ The *terminal price – regional services* applies to passengers to whom the *terminal price – international services* and *terminal price – domestic services* do not apply.

Note: this price is for the services provided by CIAL's integrated terminal to those passengers. An additional charge will also be payable for use of the Regional Lounge itself. Airline customers wishing to use the Regional Lounge should discuss access and charging arrangements with CIAL.

²² Excluding departing passengers checked in using different, separately agreed check-in facilities (i.e. Air New Zealand's kiosk area).

APPENDIX B: CIAL'S PSE3 CONSULTATION PROCESS

129 CIAL's consultation with airlines involved the following steps:

129.1 On 16 November 2016 CIAL sent out its Initial Proposal and model, prepared with assistance from independent experts Incenta and Three Consulting, for airlines' consideration and feedback.

129.2 Airlines were given the opportunity to provide feedback on CIAL's proposal consultation timetable and briefings, by 23 November 2016. No substantial customers provided feedback on either topic.

129.3 On 29 November 2016 CIAL ran an initial briefing to:

- (a) ensure shared understanding of the framework of CIAL's proposal;
- (b) give an overview of the main elements of the proposal; and
- (c) hear whether substantial customers sought briefings on any other elements of the proposal.

BARNZ, Air New Zealand and China Airlines attended the briefing at Christchurch Airport in person, and representatives from Qantas, Jetstar and Virgin Australia attended by phone.

CIAL's advisers Incenta and Chapman Tripp also attended the meeting to assist CIAL's substantial customers if required.

129.4 CIAL's substantial customers were given until 5 December 2016 to ask specific clarification questions regarding CIAL's Initial Proposal.

129.5 On 13 December 2016, at BARNZ's request, representatives from BARNZ and Air New Zealand were shown around the Airport terminal to understand the terminal layout and pricing allocations.

129.6 On 19 December 2016, CIAL sent its substantial customers answers to clarification questions raised at the initial briefing, in writing and at the tour held on 13 December.

129.7 On 11 January 2017 BARNZ asked two specific clarification questions regarding CIAL's model. CIAL engaged Jeff Balchin of Incenta to provide written clarifications, which were sent to all substantial customers on 25 January 2017.

129.8 On 2 February 2017 BARNZ requested data used by Incenta relating to CIAL's asset beta. This request was also made by BARNZ and Air New Zealand in written feedback sent to CIAL on 7 February 2017.

129.9 On 7 February 2017 CIAL's substantial customers provided written feedback on CIAL's Initial Proposal. CIAL received three specific pieces of feedback – one each from Air New Zealand (10 pages), Qantas Group (three pages) and BARNZ (three pages).

- 129.10 On 17 February 2017 CIAL sent BARNZ and Air New Zealand the data requested on asset beta. In response, on 20 February 2017, BARNZ provided CIAL a memorandum prepared by Dr John Small entitled "Comments on ChCh Airport's PSE3 Proposal" (two pages, 1 February 2017).
- 129.11 On 17 February 2017, in response to comments from substantial customers, CIAL also offered a workshop or call to identify additional information CIAL could provide on two proposed capital projects – the extension of runway 11/29 and the aeronautical contribution towards reconfiguring CIAL's terminal.
- 129.12 On 14 March 2017, in response to additional discussions with substantial customers, CIAL offered an alternative call on the proposed runway extension and terminal reconfiguration projects, this time for CIAL to brief its substantial customers on the reasons for, and potential scope of, the projects. This call went ahead on 21 March 2017, attended by representatives from BARNZ, Air New Zealand, China Airlines, Qantas, Jetstar and Virgin Australia. CIAL's advisers Incenta and Chapman Tripp also attended the call to assist CIAL's substantial customers if required.
- 129.13 On 20 March 2017 BARNZ asked three specific clarification questions regarding CIAL's model. CIAL responded to BARNZ's three questions by email on 27 March 2017.
- 129.14 On 24 March 2017 BARNZ provided CIAL a second memorandum prepared by Dr John Small entitled "Comments on Incenta's WACC Analysis for ChCh Airport" (four pages, 23 March 2017).
- 129.15 On 24 March 2017 BARNZ provided CIAL comments from Bob Fletcher, Head of Operations Support at Air New Zealand, concerning CIAL's proposed extension to runway 11/29.
- 129.16 On 21 March 2017 BARNZ emailed CIAL requesting information on CIAL's quarantine waste management arrangements. CIAL responded on 31 March and BARNZ came back with additional questions on 3 April, which CIAL responded to in the Revised Proposal.
- 129.17 On 5 April 2017 CIAL emailed its substantial customers informing them of a minor adjustment to the consultation timeline, with the Revised Proposal to be sent out in the morning of 10 April and written feedback due by 5 May.
- 129.18 On 10 April 2017 CIAL sent out its Revised Proposal and model, prepared with assistance from independent experts Incenta and Three Consulting, for airlines' consideration and feedback.
- 129.19 On 5 May 2017 Air New Zealand (six pages) and BARNZ (ten pages) provided written feedback on CIAL's Revised Proposal, with BARNZ also providing a second memorandum prepared by Dr John Small entitled "Further Comments on Incenta's WACC Analysis for ChCh Airport" (four pages, 4 May 2017). On 8 May Qantas Group also provided written feedback (one page) on CIAL's Revised Proposal.

- 129.20 On 25 May 2017 CIAL emailed its substantial customers:
- (a) seeking feedback on two specific changes CIAL was considering, relating to an adjustment to the rate of change of the proposed prices, and the cross-wind runway 11/29; and
 - (b) explaining the effect of CIAL's mechanical WACC update to take account of the Commission's 1 April 2017 WACC estimates (as flagged earlier in CIAL's Revised Proposal).
- 129.21 On 7 and 8 June 2017 respectively, BARNZ (three pages) and Air New Zealand (two pages) provided written feedback on the two specific changes proposed, and WACC update explained, in CIAL's 25 May further consultation document. Qantas Group provided no feedback at this stage.
- 129.22 On 19 June 2017 CIAL sent out its Final Decision and model, prepared with assistance from independent experts Incenta and Three Consulting.

APPENDIX C: TILTED ANNUITY PARAMETERS

- 130 The process that CIAL has undertaken to set the parameters for the tilted annuity depreciation method is:
- 130.1 **First**, the “tilt factor” was set based on CIAL’s assessment of likely long term passenger growth at the Airport, which was taken to be 1.5 per cent per annum. A conservative number was applied in recognition that back-ending the return of capital exposes CIAL to greater stranded asset risk (and so CIAL wished to ensure that there was substantial confidence that its costs would be recovered, even in a downside scenario).
- Setting a tilt factor that is based on a conservative view also provides some headroom to accommodate unexpected future cost increases without price increases. To the extent that demand increases faster than this over the long term, then prices will decline – i.e. the use of a conservative assumption will not deliver a windfall gain to CIAL.
- 130.2 **Second**, the outcomes for prices over an extended period were tested given the selected tilt factor and indicative forecasts of expenditure and demand. Scenarios were also considered where government bond rates were assumed to increase over the long term (and with them, WACC).
- 130.3 **Third**, the parallel outcome for the pricing RAB for the Airport was also considered to test that the unrecovered value (compared to the value that would emerge from standard depreciation) would not generate a material risk that costs may be unrecoverable in the future.
- 131 The testing that was undertaken in the second step above recognises that the predicted effect of any formulaic depreciation method (like the tilted annuity) on price will only ever be approximate. For example:
- 131.1 the tilted annuity formula assumes (implicitly) that there is a single asset; whereas
- 131.2 individual assets are being replaced continuously over time.
- 132 Similarly, the method will only generate a level price in relation to fixed assets:
- 132.1 the per passenger price for land will decline in real terms over time (as land is only revalued for CPI); and
- 132.2 operating expenses per passenger may also fall over time (subject to future cost increases); whereas
- 132.3 the allowance for tax may increase over the long term.
- 133 In addition, as part of its process (and particularly relevant to the second step above) CIAL considered alternative depreciation approaches – see the discussion from paragraph 103.

APPENDIX D: METHODOLOGY FOR FORECASTING OPEX

134 CIAL has forecast its operating costs in line with the Input Methodologies,²³ using the following assumptions:

Personnel

134.1 Personnel costs have initially been calculated based on current FY17 employee levels. CIAL has then assumed that base pay rates will increase on average at approximately 2.5% per annum for the forecast period, based on assessment of the local labour market.

Contracted costs

134.2 Contracted costs include the following components:

- (a) **Rates:** which CIAL has calculated as current rates plus a forecast increase of 5.5% per annum from FY17 onwards, as the CCC has advised is likely in its latest 10-year Long Term Plan out to 2025.
- (b) **Insurance:** which CIAL has calculated based on its latest insurance renewal, increasing each year with CPI.
- (c) **Cleaning and energy:** which CIAL has calculated based on current contracted prices, increasing each year with CPI.
- (d) **Maintenance:** which CIAL has calculated based on current asset management plans, with CPI increases applied each year to current contractor rates.

Aeronautical development / marketing

134.3 CIAL's forecast aeronautical development / marketing costs are set based on its current plans for PSE3 (and CIAL's demand forecast take account of the same forecast marketing spend).

Other costs

134.4 CIAL has forecast other costs (including corporate and administrative costs) based on current levels, increasing each year with CPI.

²³ The Input Methodologies require CIAL to forecast costs to be incurred by CIAL relating to the supply of a regulated activity, or a regulated activity and the supply of one or more unregulated services, excluding:

- costs treated as costs of an asset by GAAP;
- depreciation, tax, subvention payments, revaluations, or interest expenses;
- pass-through costs; and
- recoverable costs.

APPENDIX E: METHODOLOGY FOR ALLOCATION OF ASSETS

Allocation of assets

- 135 CIAL has applied the same method of allocating assets between its pricing and other activities as it has applied in the FY16 disclosures. These disclosures have been prepared in accordance with the Input Methodologies and relevant Information Disclosure requirements, and require:
- 135.1 assets to be directly attributable to an activity to be so allocated; and
 - 135.2 use of an accounting-based allocator for other assets, which must be:
 - (a) based upon a causal relationship if one can be established (causal relationship is further defined as a circumstance that affected the utilisation of the asset over a defined previous period); or
 - (b) otherwise a proxy allocator is to be used.
- 136 CIAL's approach to allocating its key assets for disclosure – in compliance with the directions above – is as follows:
- 136.1 **Airfield sealed surfaces and other airfield activities** – such as the fire service, as well as the underlying land, are directly attributable to the priced (airfield) services.
 - 136.2 **Terminal building and associated plant** – have been allocated to the different activities in accordance with each activity's share of the floor space (where retail activities are also assigned a curtilage area). A separate allocator has been developed for each of the floors of each of the three main components of the terminal (arrivals/departures, terminal (public and common), and regional), and the individual assets that make up the relevant part of the terminal have been allocated according to the associated allocator. The land under the terminal has been allocated on a similar basis (in that case reflecting the share of total floorspace).
 - 136.3 **Other terminal components** – have been allocated directly where possible (for example, airbridges and the integrated baggage system are directly allocated to the priced terminal activities), while some components have been allocated on a causal basis (for example, FIDS, some of which are present in lounges).
 - 136.4 **Communications system (IOC, essentially CIAL's communications hub)** – has been allocated based the proportion of calls to the system associated with different airport activities. To determine that proportion and allocation a record has been kept, which is reviewed on an annual basis.
 - 136.5 **Maintenance, administration and infrastructure assets** – have been allocated between the priced and other activities based upon a proxy cost allocator – the value of directly allocated assets. The same allocator has been used to allocate the land underlying the maintenance assets.
 - 136.6 **Roads (Orchard Road and Wairakei Road)** – have been split 50/50 (using a proxy allocator) between priced services and non-disclosure (one of which is shared with terminal activities and the other with airfield).

APPENDIX F: METHODOLOGY FOR ALLOCATION OF OPEX

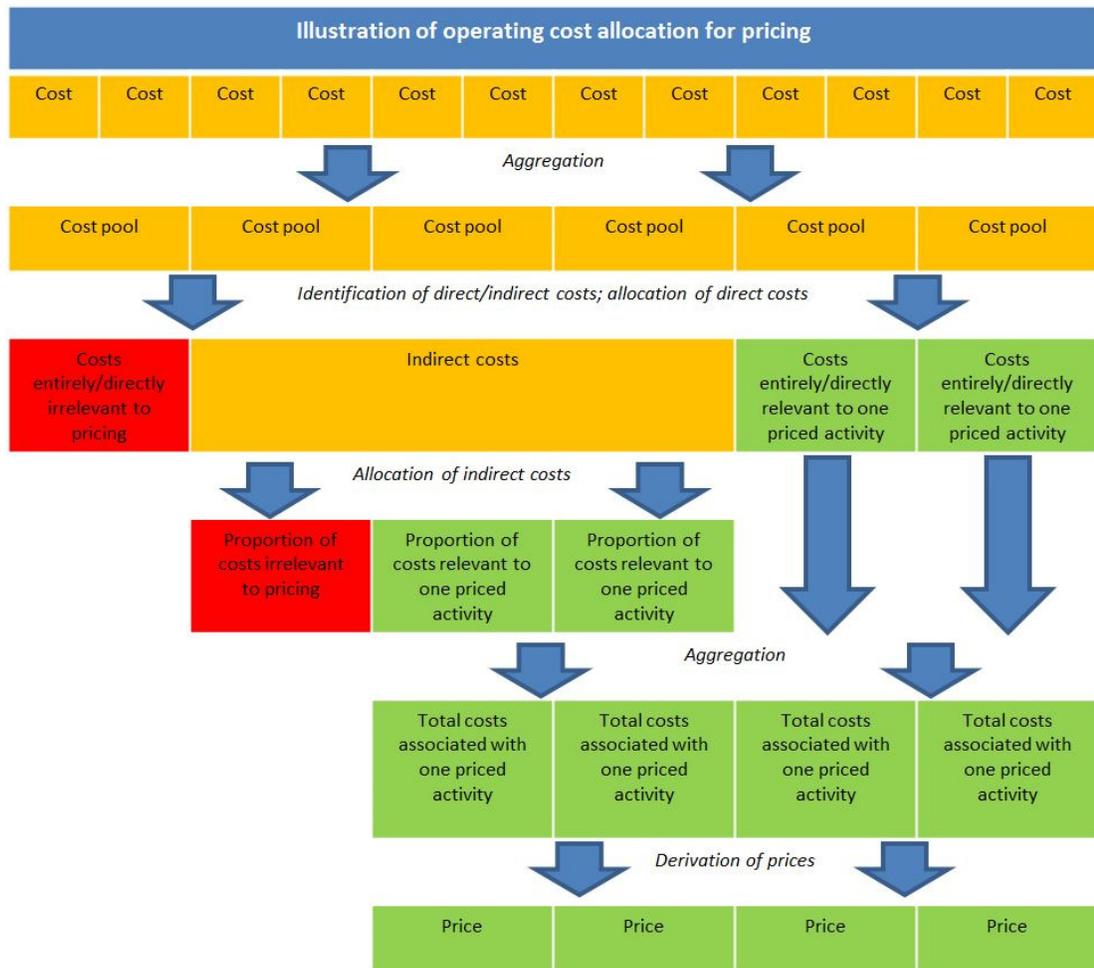
137 In accordance with the Input Methodologies, CIAL has applied cost allocators to indirect operating costs and overheads (as opposed to costs directly attributable to an asset or set of assets). CIAL’s process for operating cost allocation is set out below.

Overview of approach

138 At a high level, operating costs are allocated into cost pools that that:

138.1 enable CIAL to differentiate costs relevant to each of pricing, non-pricing and disclosure; and

138.2 give sufficient detail about the nature of the costs such that cost pools can be attributed to, and recovered via, different prices set under the AAA for different airport services.



Detail of approach

- 139 CIAL's approach is consistent with the methodology used in CIAL's annual disclosures. The step-by-step approach is as follows:

Aggregation of costs

- 139.1 Costs are aggregated by both account code (type of expenditure) and cost centre (business department).

Attribution of clearly direct costs

- 139.2 Where possible:

- (a) direct costs that relate to either non-disclosure or non-pricing activities are classified as such and excluded from pricing; and
- (b) costs attributable directly to priced activities (e.g. arrivals/departures, terminal (public and common)), are notionally allocated to those activities and later used to derive prices for the activities.

Allocation of indirect costs / costs that relate to several activities/services

- 139.3 Where a form of allocation is required (due to costs being only partly attributable to priced activities or relating to more than one priced activity) cost pools of indirect costs are created.

- 139.4 Both proxy and causal allocators are used to ensure that indirect costs are allocated appropriately:

- (a) between each of pricing, non-pricing and disclosure; and
- (b) for costs associated with priced activities, to different priced activities (e.g. airfield, terminal).

- 139.5 Proxy allocators, are used to allocate administration, maintenance and infrastructure costs.

- 139.6 Causal allocators are used to allocate costs from the:

- (a) shared terminal cost pool (based on area); and
- (b) integrated operations centre (based on time spent).

Treatment of costs relevant to pricing

- 139.7 Pricing cost pools are further aggregated at this point, reflective of the basis on which CIAL has set prices. CIAL's prices are derived from these cost pools.