FORSYTH BARR

NEW ZEALAND EQUITY RESEARCH | TRANSPORT | AIRPORT OWNER & OPERATOR

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Auckland Airport

Ready for Take-off but Uncertain Flight Path

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NEUTRAL

Auckland Airport (AIA) faces a long and non-linear recovery from COVID-19, which may provide opportunities for investors along the way. We expect its share price to be range bound for the foreseeable future, barring any further material bond rate moves. Reopening sentiment may be a short term positive catalyst but reopening reality will dampen any prospect of prolonged enthusiasm. The over-riding focus among investors is unsurprisingly the passenger (pax) recovery, which is largely reliant on a government strategy shift away from elimination to suppression. This is unlikely before herd immunity is reached, yet may be difficult to achieve given the necessary vaccination hurdle required. Consequently, the pax rebuild may take a number of years as border reopenings won't necessarily mean the end of border restrictions. Other drivers of profitability may help (investment property, aeronautical pricing, moving to a single duty free operator from two currently), or hinder (concession agreements renewals/retenders), and bond rates will likely remain a key driver of its valuation multiples. We retain a NEUTRAL rating as uncertainty continues to reign.

NZX Code	AIA
Share price	NZ$7.09
Target price	NZ$6.70
Risk rating	Low
Issued shares	1472.0m
Market cap	NZ$10,436m
Avg daily turnover	2,384k (NZ$15,510k)

Financials: Jun/	20A	21E	22E	23E
NPAT* (NZ$m)	203.5	-36.4	78.8	219.8
EPS* (NZc)	15.9	-2.5	5.4	14.9
EPS growth* (%)	-30.2	n/a	n/a	n/a
DPS (NZc)	0.0	0.0	2.7	14.9
Imputation (%)	100	100	100	100
*Based on normalised profits				

Valuation (x)	20A	21E	22E	23E
PE	44.6	n/a	n/a	47.5
EV/EBIT	43.9	n/a	69.4	33.0
EV/EBITDA	31.2	73.7	40.4	24.5
Price / NTA	1.4	1.6	1.6	1.5
Cash div yld (%)	0.0	0.0	0.4	2.1
Gross div yld (%)	0.0	0.0	0.5	2.9

Pax recovery reliant on government strategy shift

When does the government's strategy shift from elimination? This is the critical question for determining when borders reopen. We anticipate a stepped approach from January 2022, though accept an earlier Tasman bubble could still happen. This timing should mitigate any covenant concerns. The concept of herd immunity is not an exact science. The government's 70% vaccination target may be on the lower bounds of what may constitute herd immunity. Yet this may be a stretch given the proportion (~20% of adults and a likely higher proportion of children) of the population that is unlikely (through choice) to be vaccinated.

Aeronautical price inflation from FY24?

AIA's allowable regulatory return is increasing having been consistently beaten down for much of the past decade. This may not be good news for its share price, but it at least supports its aeronautical earnings outlook. The higher return reflects a combination of a higher risk free rate, a likely higher asset beta and a higher tax adjusted market risk premium. AIA's next price reset is due on 1 July 2022, but is likely to be delayed given the underlying uncertainty regarding its capex programme. Any delay in pricing will likely mean steeper aeronautical price increases when the reset eventually takes place.

Lower return retail in future

AIA's commercial income has been most impacted by COVID-19 given its leverage to international pax. As pax recover, so should the contribution from concessions. The nature of concession arrangements in future may be less favourable for AIA than pre COVID-19 due to (1) most are retendered/renewed over the next two years. (2) Force majeure clauses will become mandatory and pax driven ratchet mechanisms for MAGs (minimum annual guarantee) will disappear. (3) Concession yields may be adversely impacted by increasing competition for Chinese travel dollars, ongoing travel retailer consolidation, and potential for regulatory changes.

Auckland International Airport Ltd (AIA)

Priced as at 10 Mar 2021 (NZ$)	**7.09**

12-month target price (NZ$)*	**6.70**
Expected share price return	-5.5%
Net dividend yield	0.3%
Estimated 12-month return	-5.2%

Spot valuations (NZ$)	
1. DCF	6.31
2. n/a	n/a
3. n/a	n/a

Key WACC assumptions	
Risk free rate	2.30%
Equity beta	0.86
WACC	5.5%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	10,714
(Net debt)/cash	(1,432)
Less: Capitalised operating leases	0
Value of equity	9,282

Profit and Loss Account (NZ$m)	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
Sales revenue	743.4	567.0	270.8	432.0	644.1
Normalised EBITDA	**554.8**	**388.0**	**159.3**	**291.6**	**480.2**
Depreciation and amortisation	(102.2)	(112.7)	(121.8)	(122.0)	(122.9)
Normalised EBIT	**452.6**	**275.3**	**37.5**	**169.6**	**357.3**
Net interest	(78.5)	(71.8)	(74.5)	(67.7)	(60.5)
Associate income	8.2	8.4	6.0	7.5	8.5
Tax	(109.2)	2.2	(3.5)	(30.6)	(85.5)
Minority interests	0	0	0	0	0
Normalised NPAT	**274.7**	**203.5**	**(36.4)**	**78.8**	**219.8**
Abnormals/other	(248.8)	9.6	(38.6)	0	0
Reported NPAT	**523.5**	**193.9**	**2.2**	**78.8**	**219.8**
Normalised EPS (cps)	22.8	15.9	(2.5)	5.4	14.9
DPS (cps)	22.3	0	0	2.7	14.9

Valuation Ratios	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
EV/EBITDA (x)	22.3	31.2	73.7	40.4	24.5
EV/EBIT (x)	27.4	43.9	>100x	69.4	33.0
PE (x)	31.1	44.6	n/a	>100x	47.5
Price/NTA (x)	1.4	1.4	1.6	1.6	1.5
Free cash flow yield (%)	0.5	-1.9	-0.8	-0.5	-0.8
Net dividend yield (%)	3.1	0.0	0.0	0.4	2.1
Gross dividend yield (%)	4.4	0.0	0.0	0.5	2.9

Growth Rates	**2019A**	**2020A**	**2021A**	**2022A**	**2023A**
Revenue (%)	8.7	-23.7	-52.2	59.5	49.1
EBITDA (%)	9.6	-30.1	-58.9	83.0	64.7
EBIT (%)	8.4	-39.2	-86.4	>100	>100
Normalised NPAT (%)	4.4	-25.9	n/a	n/a	>100
Normalised EPS (%)	3.6	-30.2	n/a	n/a	>100
Ordinary DPS (%)	2.3	-100.0	n/a	n/a	>100

Capital Structure	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
Interest cover EBIT (x)	5.8	3.8	0.5	2.5	5.9
Interest cover EBITDA (x)	7.1	5.4	2.1	4.3	7.9
Net debt/ND+E (%)	26.3	17.2	18.0	18.6	20.2
Net debt/EBITDA (x)	3.9	3.6	9.2	5.3	3.6

Cash Flow (NZ$m)	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
EBITDA	**554.8**	**388.0**	**159.3**	**291.6**	**480.2**
Working capital change	(48.6)	18.0	(6.0)	(7.5)	(8.5)
Interest & tax paid	(187.7)	(69.6)	(78.0)	(98.4)	(146.0)
Other	57.4	(160.6)	42.7	7.5	8.5
Operating cash flow	**375.9**	**175.8**	**118.0**	**193.3**	**334.2**
Capital expenditure	(320.1)	(376.6)	(200.0)	(250.0)	(420.0)
(Acquisitions)/divestments	(0.8)	(23.1)	0	0	0
Other	(7.0)	(11.8)	(5.6)	(8.8)	(8.3)
Funding available/(required)	**48.0**	**(235.7)**	**(87.5)**	**(65.6)**	**(94.1)**
Dividends paid	(192.4)	(89.4)	6.0	(12.2)	(101.4)
Equity raised/(returned)	0	1,178.1	0	0	0
(Increase)/decrease in net debt	**(144.4)**	**853.0**	**(81.5)**	**(77.8)**	**(195.5)**

Key Ratios	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
Return on assets (%)	5.2	3.0	0.4	1.9	3.9
Return on equity (%)	4.6	3.1	-0.5	1.2	3.2
Return on funds employed (%)	11.0	7.4	0.5	3.1	6.3
EBITDA margin (%)	74.6	68.4	58.8	67.5	74.5
EBIT margin (%)	60.9	48.6	13.9	39.3	55.5
Capex to sales (%)	43.1	66.4	73.8	57.9	65.2
Capex to depreciation (%)	313	334	164	205	342
Imputation (%)	100	100	100	100	100
Pay-out ratio (%)	98	0	0	50	100

Balance Sheet (NZ$m)	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
Working capital	(33.4)	(38.5)	(43.1)	(68.7)	(102.4)
Fixed assets	6,577.1	6,060.8	6,039.0	6,067.0	6,264.1
Intangibles	0	0	0	0	0
Right of use asset	0	0	0	0	0
Other assets	2,013.7	2,403.3	2,539.3	2,676.8	2,815.3
Total funds employed	**8,557.4**	**8,425.6**	**8,535.2**	**8,675.1**	**8,977.0**
Net debt/(cash)	2,153.1	1,379.9	1,461.4	1,539.2	1,734.7
Lease liability	0	0	0	0	0
Other liabilities	371.4	408.6	408.6	408.6	408.6
Shareholder's funds	6,032.9	6,637.1	6,665.2	6,727.3	6,833.7
Minority interests	0	0	0	0	0
Total funding sources	**8,557.4**	**8,425.6**	**8,535.2**	**8,675.1**	**8,977.0**

Operating Performance	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**
Aeronautical	342.2	262.3	106.7	188.1	287.1
Consumer	301.3	201.9	47.5	119.6	224.9
Property	94.7	97.0	107.4	115.0	122.6
Other	5.2	5.8	9.2	9.3	9.5
Sales revenue	**743.4**	**567.0**	**270.8**	**432.0**	**644.1**
Aeronautical	252.1	167.2	56.7	116.1	207.1
Consumer	269.0	173.1	36.5	92.6	197.9
Property	72.2	75.0	89.2	93.2	98.1
Other	(38.5)	(27.3)	(23.0)	(10.2)	(22.9)
EBITDAFI	**554.8**	**388.0**	**159.3**	**291.6**	**480.2**
International pax growth (%)	3.0	-26.3	-95.9	900.0	150.0
Transits (%)	-1.2	-1.2	-90.9	n/a	114.3
Domestic pax growth (%)	3.6	-26.5	-22.4	40.4	12.5
Aero income per pax change	1.3	4.8	12.0	3.8	5.3
Retail sales per int'l pax change	15.5	-14.9	146.3	-53.5	-7.5
Car park income per pax change	1.7	6.6	-17.0	15.0	8.0
Yield on property BV (%)	6.8	5.7	5.5	5.5	5.5
Int'l aircraft numbers ('000)	57.1	45.0	14.2	29.2	45.5
Domestic aircraft numbers ('000)	121.7	94.2	78.1	103.7	110.7

* Forsyth Barr target prices reflect valuation rolled forward at cost of equity less the next 12-months dividend

Aviation has changed — valuation range bound; NEUTRAL

Auckland Airport (AIA) will be a different business post COVID-19 than pre COVID-19. The pandemic has changed aviation like no other black swan event in its history. What's changed, or will likely change?

- **Passenger demand has, and will continue to be, impacted**. Demand won't resume to the historic track. Business travel, consumer apathy, global vaccination rates, additional health borders will all impact passenger demand, at least for a period of time.
- The industry's **risk profile has increased**. Management has suggested that its asset beta has increased from an aeronautical pricing perspective, which ordinarily means its market implied asset beta has increased. If that's the case all else being equal its valuation should be lower. However, the valuation impact will be partly mitigated by higher aeronautical income (AIA will be able to justify a higher target return on its aeronautical pricing).
- **New capex will be harder to justify**. The airlines, which have suffered the greatest stress, ultimately fund capex and they are unlikely to be able to afford to fund new projects currently.
- **Commercial concessions will change**. The balance of power has shifted towards the concessionaire from the airport. Various trends that were in place pre COVID-19 will accelerate as a result of consumer behaviour and industry competition.

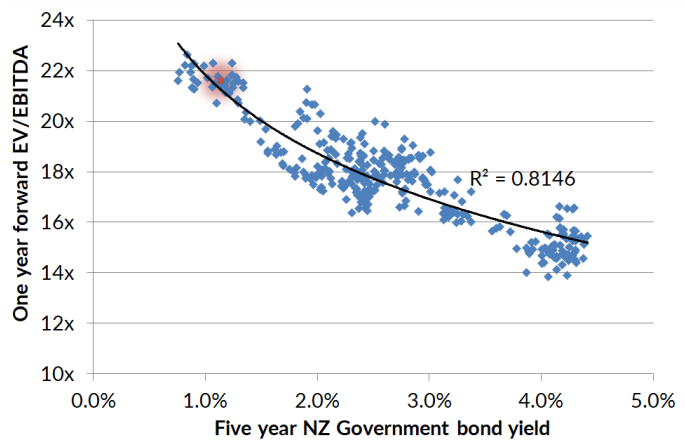
Three key valuation drivers will be unchanged — profits, bond rates and pax growth

Irrespective of the degree to which AIA and the industry has changed as a result of COVID-19, a key constant for AIA will be its three key valuation drivers, namely, (1) profits,(2) bond rates and (3) pax growth. The strong historic relationship between share price, profits and bond rates is evident in Figures 1 and 2. Notwithstanding a relatively strong r-squared we've previously determined that deviations from the trend line can largely be explained by higher or lower levels of pax growth.

In both charts we also plot AIA's current implied valuation based on CY19 earnings (indicated by the red glow). Both data points are within close proximity of their respective best fit lines. Our earnings forecasts assume that AIA does not recover back to CY19 levels until CY24 (1H15 annualised). We deduce that AIA's share price may be range bound for the foreseeable future. CY19 profit levels are as good as any measure of medium term profitability for AIA, in our opinion. Albeit we're conscious that some of AIA's operations (aeronautical and property) will generate higher profits in future than pre COVID-19 irrespective of the pax recovery profile.

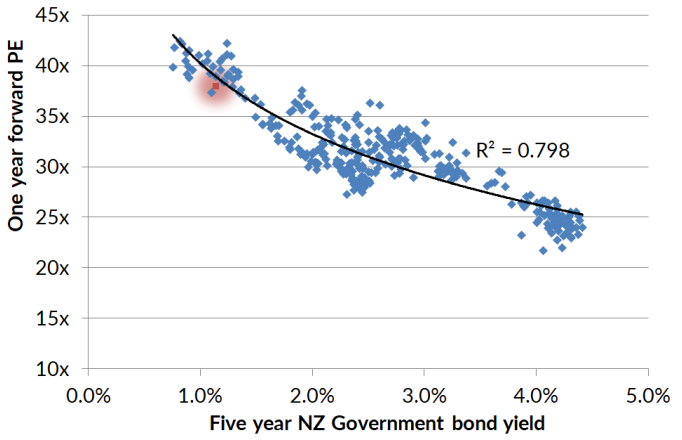
Countering the prospect of a higher level of potential profitability is our view that in the post COVID-19 world the trend line in both charts should shift to the left given the increased risk profile of AIA (i.e. a higher asset beta, which lifts its WACC). Given the empirical data for airports globally suggests asset betas have risen as a result of COVID-19, we would expect this to play out in terms of ongoing share price performance. The challenge with this acknowledgement is how far to the left? We don't know for sure.

Figure 1. AIA's weekly one year forward EV/EBITDA vs five year government bond rates pre COVID-19 and current multiple based on CY19 EBITDA



Source: Refinitiv, Forsyth Barr analysis

Figure 2. AIA's weekly one year forward PE vs five year bond rates pre COVID-19 and current multiple based on CY19 EPS



Source: Refinitiv, Forsyth Barr analysis

Passenger recovery: a painful, slow and uncertain rehabilitation

Air travel will be a lower volume industry post COVID-19 than in the pre COVID-19 world. This will be a function of three key drivers of demand: (1) **the cost of travel will increas**e, (2) **propensity to travel will decline** given added health risks and the added hassles of travelling (i.e. pre-departure testing, mask wearing on long haul flights), and (3) the **growing environmental awareness**.

The global aviation industry has quickly recovered from previous black swan events with rapid resumption of the historic growth trajectory. This time will be different, given the scale, duration and hardship that has been endured on a global scale. The recovery profile and longer term growth outlook for aviation remains highly uncertain. We continue to forecast a return to CY19 levels of international pax at AIA in FY26.

The recovery only starts when borders reopen, which will require a strategy shift by the government. This may only happen in 2022, even for trans-Tasman travel despite the apparent political will to resume regular quarantine free services to/from Australia. We recognise pent-up demand, particularly across the visiting friends and family cohort, will be a feature when commercial travel resumes and could mask the underlying demand backdrop in the near term. This may distort the slope of sustainable recovery in demand.

Figure 3. Cost of travel will increase as a result of COVID-19

- Pre-departure testing and other health border requirement costs likely to be passed onto travellers
- Higher insurance costs
- MIQ (managed isolation and quarantine) may still be a feature for higher risk countries

Source: Forsyth Barr analysis

Figure 4. Propensity to travel will decline

- Apathy to travel for immune-compromised cohort, those not vaccinated
- Consumers increasingly favour fewer but longer trips
- Hassles of additional health related border measures

Source: Forsyth Barr analysis

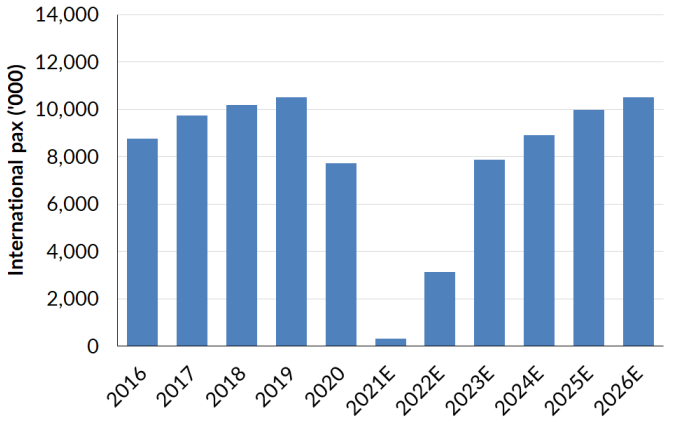
The near term recovery is a function of the science and politics of reopening borders

We expect a number of 'difficult to determine' factors will influence the near term pax recovery for AIA. Consequently, our pax estimates for specific periods over the next several years come with a wide margin for error. These factors include:

- **Stop, start:** A trans-Tasman bubble in isolation is likely to prove problematic for several reasons. First, its likely to be stop, start. Both New Zealand and Australia have not be able to prevent new, albeit contained, outbreaks of COVID-19 in recent months. This will impact passenger propensity to travel with shorter booking cycles than pre COVID-19 and may necessitate closures mid-bubble.
- **Vaccinations:** COVID-19 re-entry risks are lower once border workers (including airport, airline crew, MIQ, and freight workers) are vaccinated. However, the risk of further outbreaks isn't removed entirely as no vaccine is 100% effective. New Zealand is only likely to complete its vaccination programme in late 2H21 at the earliest, up to three months behind Australia.
- **Herd immunity:** The generally accepted vaccination rate for a high efficacy vaccine is 70%–80% in order for a population to reach herd immunity. This includes everyone including children. Refer below for further discussion.
- **Government decision making:** The New Zealand Government has consistently demonstrated a very cautious approach to managing COIVD-19. Earlier this year Prime Minister Ardern said that one of two things were needed to allow New Zealand's borders to reopened: "*We either need the confidence that being vaccinated means you don't pass Covid-19 on to others – and we don't know that yet – or we need enough of our population to be vaccinated and protected that people can safely re-enter New Zealand*". The government has said that it will need around 70% of the population immunised before borders re-open to long haul travel. In essense this requires a strategy shift from elimination to suppression.
- **The science is incomplete but promising:** Fast-tracked vaccine approvals means the data sets supporting the effects of vaccines for transmissibility are limited. Last month separate studies on the Pfizer vaccination programme in Israel suggested that transmissibility is reduced after 12 days from injection.

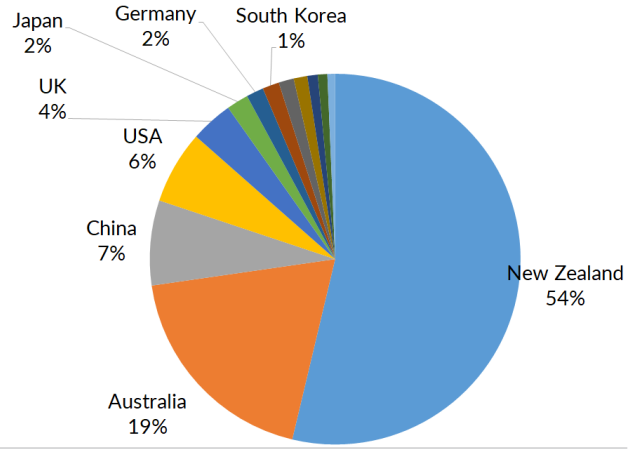
Our base case assumes that borders reopen from 1 January 2022, but given the likely restrictions that will still be in place (digital vaccine passports, pre-departure testing, and borders remaining closed to specific higher risk countries) and the typically longer booking cycle for long haul traffic, we expect only a gradual underlying ramp up in pax, despite the short term pent-up demand.

Figure 5. Forsyth Barr forecasts for AIA's near term international pax recovery



Source: Forsyth Barr analysis

Figure 6. Split of international pax at AIA by residency (CY19)



Source: Stats NZ, Forsyth Barr analysis

How realistic is a trans-Tasman bubble?

While our base case assumptions incorporate border relaxation effective 1 January 2022, we still believe there is a 35%–50% chance of a quarantine free Trans-Tasman bubble opening this year. There are strong arguments on both sides of this debate as follows:

- **Reasons why a bubble may open:** (1) A trans-Tasman bubble will be politically important for the New Zealand Government particularly as vaccinated parts of the world open up from mid-2022. (2) New Zealand will be a net beneficiary of trans-Tasman travel; there are only two months a year when there is a net outflow of travellers to Australia (May and October). (3) Once border workers are vaccinated the risk of COIVD-19 outbreaks reduces for both countries.
- **Reasons why a bubble won't open:** (1) The New Zealand Government has pursed a very low risk strategy to-date, which has been supported by the majority of voters. (2) There is questionable trust between the two governments and between state governments in Australia — in particular green zone travel arrangements have not been applied consistently by Australia during recent outbreaks in New Zealand. (3) An isolated trans-Tasman bubble is reliant on both Australia and New Zealand continuing to pursue the same COVID-19 response strategy and vaccination rates. We expect Australia to loosen its border controls once 'herd immunity' is achieved, in advance of New Zealand. Once its border restrictions ease there is likely to be greater acceptance that COVID-19 outbreaks will occur. (4) The political challenge of navigating a bubble opening for a defined period (say 3–6 months) before possibly having to close because border restrictions ease in Australia ahead of New Zealand achieving herd immunity.

Herd immunity in New Zealand will be a challenge

The concept of herd immunity will determine the government's eventual strategy shift from elimination to suppression. It is hoping that vaccinating 70% of the population will prove effective in providing herd immunity. However, the actual proportion of the population that must be vaccinated against COVID-19 to begin inducing herd immunity is not known. It could be 70%, it may need to be 80% or higher. It may also depend on how COVID-19 mutates in future.

We recognise it will be difficult to achieve herd immunity and that herd immunity doesn't mean New Zealand will be free of COVID-19. The speed in which New Zealand achieves herd immunity will be a function of many variables including:

- **Vaccination progress:** We expect New Zealand to complete its full population vaccination programme by year end CY21. This could be 3–6 months behind its developed nation peers.
- **A material segment of the population will not take a vaccine:** A recent survey undertaken by Horizon Research undertaken by Research NZ found that ~19% of adults were unlikely to take a vaccine. In contrast ~69% said they would, with a further ~11% undecided. The government may need an effective propaganda programme to raise this level.
- **Vaccines aren't yet approved for children:** This cohort amounts to ~20% of the New Zealand population. Both Pfizer and Moderna are currently trialling vaccines on children 12 years and older. Children will be required to be vaccinated in order for New Zealand to reach a vaccination rate of 70% or more of the population.
- **Children and younger people are less likely to take vaccines:** Given the very low health risks for children the likelihood of them being vaccinated to the same level as adults is unlikely.
- **New Zealand has no natural immunity:** Countries that haven't been able to eliminate COVID-19 (US, Europe, UK, Sweden, etc.) will have a underlying level of immunity in their populations which will provide protection to those that do not get vaccinated.

Herd immunity will be sufficient to remove the prospect of widespread community outbreaks, but won't be sufficient to eliminate COVID-19 entirely. We expect New Zealand borders to retain additional health security measures including pre-departure testing, digital vaccination passports and enforced MIQ from high risk countries, once they reopen.

New Zealand's vaccination programme will only be 'complete' in late CY21

The New Zealand Government is pinning its efforts on the Pfizer vaccine, having recently purchased an additional 8.5m doses further to the 1.5m it purchased last year. As a result it is reviewing its agreements for other vaccines. The concept of a single (twin dose) vaccine approach makes vaccination administration and logistics and the herd immunity equation far easier to manage and understand, instead of employing multiple vaccines.

Figure 7. Government vaccine programme timeline

Group	Timeline	Population group	Approximate size of group
1	Feb Onward		
1.a		Border/MIQ workers	15,000
1.b		Close contacts of 1.a	40,000
2	Feb-May		
2.a		Frontline healthworkers with a higher expousre to COVID-19	57,000
2.b		Frontline healthworkers not included in group 2.a	183,000
		High risk (residential villages, underlying health conditions, South Auckland)	234,000
3	May Onward		
3.a		Aged 75+ not included in group 2	317,000
3.b		Aged 65-74 not included in group 2	432,000
3.c		Relevant health conditions and/or disabled people nationwide	730,000
4	**July Onward**		
		Remainder of the population	2,000,000
Total			**4,200,000**

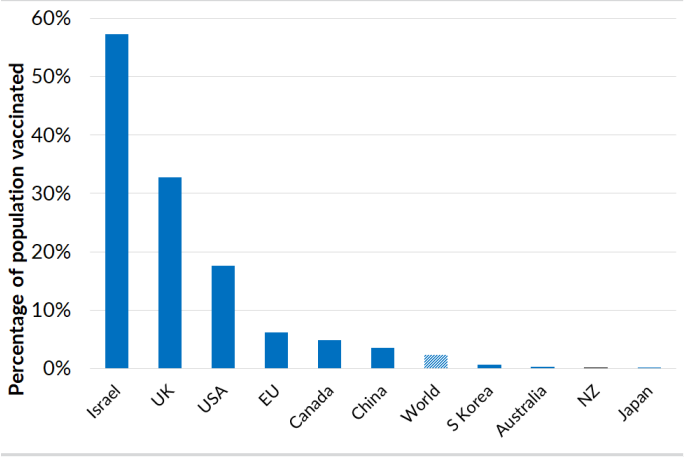
Source: MOH, Forsyth Barr analysis NOTE: The government has said that Group 3 totals ~1.7m people yet the breakdown by sub-group only totals ~1.5m

Figure 8. COVID-19 vaccine programme in New Zealand

Vaccine	Doses purchases (m)	Doeses required	Courses (m)	Vaccine arrival in NZ	Efficacy	Approved in NZ
Pfizer-BioNTech	1.5 (first batch) 8.5 (second batch)	2 (at least 21 days apart)	0.8 4.2	From 1Q21 2H21	95%	Yes
Janssen (Johnson & Johnson)	5.0	1	5.0	Up to 2m doses in Q321. Remainder in 2022	61%-72%	Applicaton under review
Novavax	10.7	2 (21 days apart)	5.4	Later in 2021	89%	No
AstraZeneca-Oxford	7.6	2 (21 days apart)	3.8	0.21m doses by end of May 2021 under COVAX	82%*	Applicaton under review
Total	**24.8**		**14.9**			

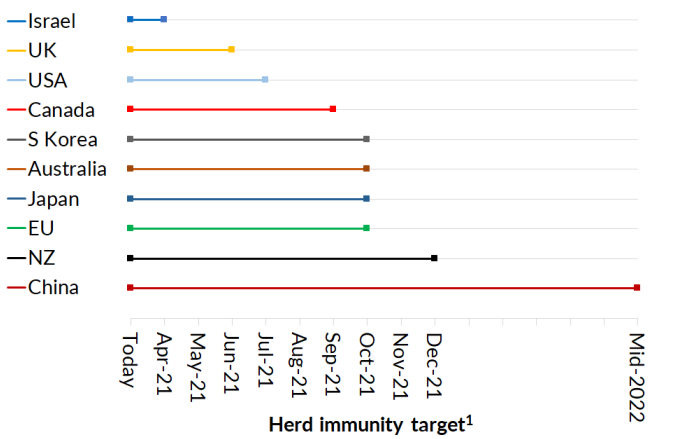
Source: Forsyth Barr analysis *82% for doses separated by 12 weeks. Lower protection against South African variant

Figure 9. New Zealand lags vaccination drive globally



Source: ourworldindata.org, Forsyth Barr analysis

Figure 10. NZ's programme will likely lag various other countries



Source: Forsyth Barr analysis

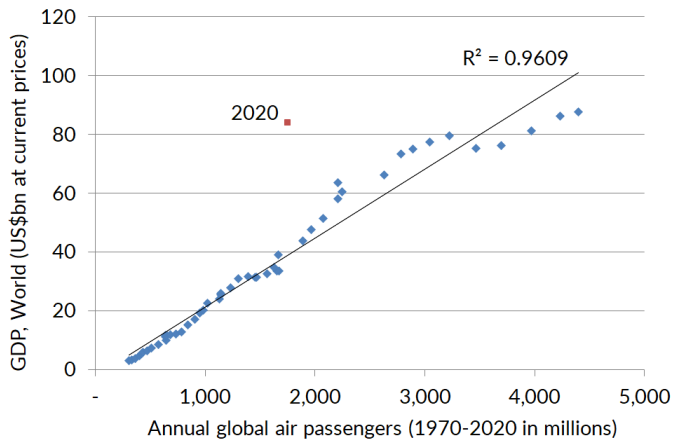
The longer term pax recovery is equally complex

Historically we have used 3.5%–4.0% as a sensible range for AIA's longer term international pax growth assumption. While there are a number of things to consider in forming a view on the longer term recovery profile of pax for AIA, the impact of COVID-19 on longer term travel habits is likely to be negative.

- **People will travel more thoughtfully:** They will more likely travel internationally for longer rather than shorter periods. This also aligns with the travel habits of millennial travellers. We expect this to be the same for business travel as it is for leisure.
- **COVID-19 will linger:** COVID-19 outbreaks will continue well after borders reopen and theoretical herd immunity is achieved as a result of (1) not everyone will choose to be vaccinated, (2) it will take a number of years before the global population has reached apparent herd immunity, and (3) herd immunity provides a reproductive or transmission rate (R0) below 1.0, but won't stop new outbreaks from taking place, no different to measles outbreaks in recent years. This may add to consumer apathy to travel.
- **The customer journey will change:** Digital health passports will likely be the new norm but a global standard will be necessary to ensure customer journeys are smooth. In light of a proportion of most populations choosing not to vaccinate, pre-departure testing will become the norm. This will likely add to the cost of an overseas trip at both ends. For example COVID-19 PCR tests in New Zealand cost NZ$250 per test. Some airlines may only accept passenger that have had an approved vaccine.
- **Airlines may prohibit un-vaccinated pax:** Qantas has said that it will only take international passengers that have taken a vaccine when it recommences international flights once borders reopen.
- **ESG will play a bigger role in our lives**: The environmental footprint of aviation will have a negative impact on demand in future given the prospect of (1) flight shaming, and (2) added costs of flying from carbon offsetting.

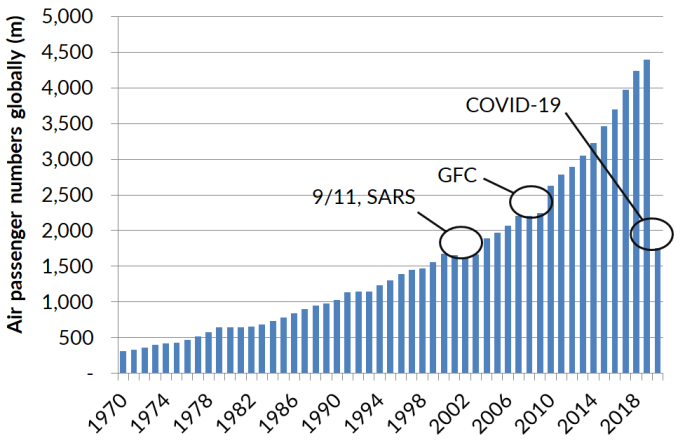
We believe an appropriate longer term international pax growth range of 2.5%–3.0% is more appropriate in a post COVID-19 world.

Figure 11. Global GDP vs global air passengers



Source: Forsyth Barr analysis

Figure 12. The aviation industry has navigated previous black swans relatively quickly



Source: Wold Bank, Forsyth Barr analysis

Aeronautical unknowns; WACC a net benefit to earnings recovery

AIA's next aeronautical pricing period (PSE4) is for the five years from 1 July 2022. Recent management commentary suggests it will unlikely be in position to reset prices ahead of the start of PSE4, due to uncertainty around capex and passenger recovery. Therefore FY22 prices will remain in place until new prices are set. This will partially hamper AIA's earnings recovery in FY23 but allows for steeper aeronautical price increases in later years. We assume new prices will be in place from the start of FY24, and will increase at an annual rate of +9% for the remainder of PSE4.

Our PSE4 aeronautical annual rate of price growth is based on several key assumptions:

- If re-priced today, **AIA would benefit from a marginally higher regulatory WACC** relative to PSE3: despite bond rate compression we expect AIA to benefit from higher TAMRP, leverage and asset beta.
- AIA's opening and closing regulatory asset base (RAB) in PSE4 will be substantially lower than suggested in the PSE3 price setting capex assumptions. But, the **opening and closing PSE4 RAB will both be higher than the equivalent for PSE3 price setting assumptions**.
- We expect the COVID-19 pax recovery to impact the actual number of pax through early PSE4. Consequently, the total number of pax through PSE4 will be lower than what was assumed in price setting assumptions for PSE3. Therefore, **on a per pax basis, all else being equal, aeronautical prices need to rise**.

We continue to use a RAB multiple approach to valuing AIA's aeronautical assets. In light of the very generous TAMRP (tax adjusted market risk premium) that the ComCom applies (from PSE4 it will be 7.5%) we believe a RAB multiple of ~1.5x is appropriate.

Aeronautical pricing approach

The process in setting prices involves lengthy consultation with airlines and the final pricing is subsequently reviewed by the Commerce Commission (ComCom) under Part 4 of the Commerce Act. Since prices were last set from 1 July 2017 a number of key price setting variables have changed materially, which may materially impact pricing.

In Figure 13 we illustrate the key simplified building blocks of aeronautical pricing. In reality the internal rate of return (IRR) approach used by the ComCom is more complex, taking annual cash flows and opening and closing RAB into consideration, but the key variables are the same. Having already discussed pax in the previous section of this report, below we focus on the other twp most important, namely WACC and RAB.

Figure 13. Key drivers of aeronautical pricing

$$\text{Aeronautical pricing} = \frac{\text{Allowable revenue}}{\text{\# of passengers/landings}}$$

Allowable revenue = Allowable return + Opex + Depreciation + Tax

Allowable return = WACC x RAB

Source: Forsyth Barr analysis

Figure 14. Simplified Lalley-Brennan CAPM approach

$$WACC = k_d(1 - T_c)L + k_e(1 - L)$$

where:

$k_d = r_f + p + d$

$k_e = r_f(1 - T_i) + \beta_e \, TAMRP$

Source: Forsyth Barr analysis NOTE: kd = cost of debt, L = leverage, Tc = corporate tax rate, Ke = cost of equity, rf = risk free rate, Ti = investor tax rate, ßе = asset beta

Higher WACC

The ComCom has a well prescribed approach to its WACC estimation for AIA (and Christchurch and Wellington Airports), albeit with scope for justifiable airport specific adjustments from the mid-point 50th percentile. AIA was able to ultimately justify a percentile uplift (but not as high as assumed in its original prices, which were later lowered part way through PSE3 given the ComCom's adverse report and government pressure) for its PSE3 (FY18–FY22) period given its heightened level of operating leverage relative to peers in light of its heavy capex pipeline.

This argument should still suffice in PSE4 as the capex profile is likely to be similar once the pax recovery is underway. We assume that AIA will be able to justify the 55th percentile WACC when it re-prices.

Calculating WACC

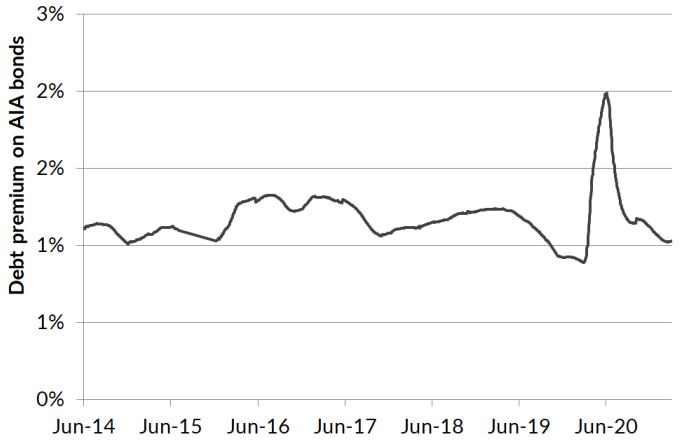
The WACC methodology employed by the ComCom is the simplified Lalley-Brennan approach as shown in Figure 14. Since the 2017 PSE3 price setting several key variables have changed:

- **Risk free rate** (r_f): the five year government bond rate is currently at ~1.2% compared to 2.76%. The ComCom uses a three month rolling average, which currently works out to be 0.63%. The irony for AIA is that a higher risk free rate may be positive for its aeronautical repricing but is a headwind for the share price. Pre COVID-19 AIA was the most sensitive member of the NZX50 to bond rate movements.
- **Debt premium** (p): the debt premium that AIA's bonds trade at relative to government bonds is currently 103 bps, down from the 145 bps that was applied when AIA set prices for PSE3.

Figure 15. Risk free rate (five year government bond)

Source: Bloomberg, Forsyth Barr analysis

Figure 16. Debt premium from market pricing of AIA bonds

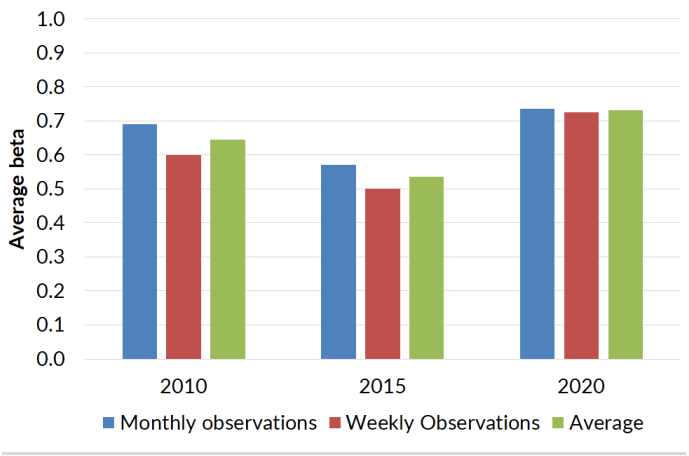


Source: Bloomberg, Forsyth Barr analysis

There are several other key WACC inputs that may change but have an element of subjectivity attached to them:

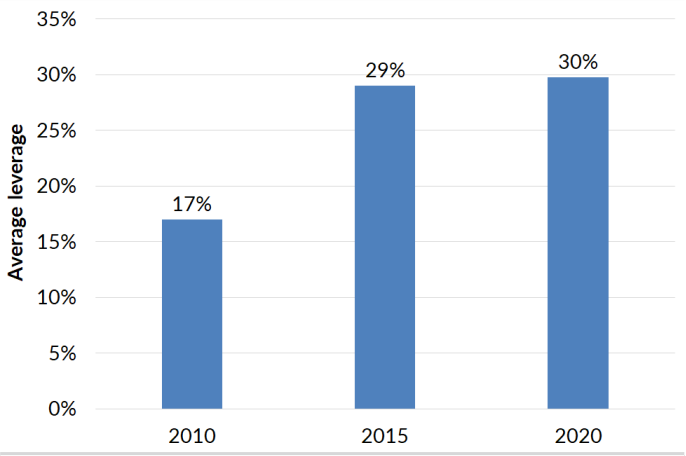
- **Asset beta** ($ß_e$): Has been static at 0.60 for the past two price setting events. Intuitively we think it should increase due to elevated volatility among global airports through COVID-19. Management has suggested that an initial PwC undertaken assessment suggests airport asset betas have increased as a result of COVID-19. Our empirical study using the ComCom's Bloomberg data based approach suggests that it has risen to ~0.7 (Figure 17).
- **Leverage** (L): The ComCom has historically used industry-wide rather than company specific estimates for leverage (and asset beta). We don't expect it to change its stance for PSE4. It has used Leverage of 19% in each of the past two price setting assessments. However, our analysis of the international airport comparator set suggests Leverage has increased to ~30% (Figure 18). While this increases the weighting of the cost of debt in the WACC calculation it also increases the equity beta, which means the net result is a higher WACC.
- **Tax adjusted market risk premium** (TAMRP): This will likely increase from 7.0% to 7.5% following the input methodologies review undertaken for fibre. In that review the ComCom stated "*Our estimate of the tax-adjusted market risk premium (TAMRP) is an economy-wide parameter which we have updated to reflect current market data and estimate as 7.5%*". At this level of TAMRP, which is materially higher than our estimate, AIA is able to generate a return well in excess of the implied market WACC for its aeronautical activities, which supports our valuation approach that assumes a multiple to RAB for AIA's aeronautical assets (currently set at ~1.5x).

Figure 17. Asset beta has increased



Source: Bloomberg, Forsyth Barr analysis

Figure 18. Leverage has also increased



Source: Bloomberg, Forsyth Barr analysis

We summarise in Figure 19 the range of WACC outcomes that would be possible if AIA was to re-price based on current prevailing bond rates. Our base case WACC for PSE4 pricing incorporates a higher asset beta (0.7), higher leverage (30%) and higher TAMRP (7.5%) than that applied in PSE3.

Figure 19. WACC scenarios for PSE4 vs PSE3 (final adjusted pricing)

	PSE3	Current using PSE3 inputs	Adjusted for higher TAMRP	Adjusted for higher industry-wide leverage and higher asset beta
Risk free rate	2.76%	1.20%	1.20%	1.20%
Debt premium	1.45%	1.03%	1.03%	1.03%
Leverage	19%	19%	19%	30%
Asset beta	0.60	0.60	0.60	0.70
Tax adjusted MRP	7.0%	7.0%	7.5%	7.5%
Post-tax benchmark WACC - 50th percentile	**6.41%**	**5.30%**	**5.60%**	**6.48%**
Targeted percentile	55th	55th	55th	55th
Targeted return	**6.62%**	**5.48%**	**5.78%**	**6.67%**

Source: Forsyth Barr analysis

RAB outlook uncertain given capex and pax trigger unknowns

AIA's capex outlook is reliant on its passenger recovery. The company has said it will now apply a trigger (including pax and road traffic) based approach to its eight key anchor projects. These anchor projects include:

- New domestic jet facility
- New international arrivals
- International terminal pick-up/drop-off and multi-storey car park
- New cargo precinct
- Northern runway
- North stands and taxiways
- Northern road network
- Domestic rejuvenation

The majority of these projects are regulatory asset base (RAB) related and therefore most appear in AIA's 2017 PSE3 price setting assumptions. At that time the total cost of AIA's anticipated 10 year spend from FY18–FY27 was NZ$3.7bn (in 2017 dollars not adjusted for inflation). The deferral of all of these anchor projects mean a flatter and longer development profile over the next 10 years than previously anticipated.

The largest project is the Northern Runway development, which in 2017 dollars was worth NZ$1.0bn. This was planned to be built in advance of an CY28 commissioning. However, management suggests that it's now more likely to be required in the late 2030s, suggesting zero capex attributable to it for most of the next 10 years. We believe other anchor projects are still likely to be undertaken within the next 10 years.

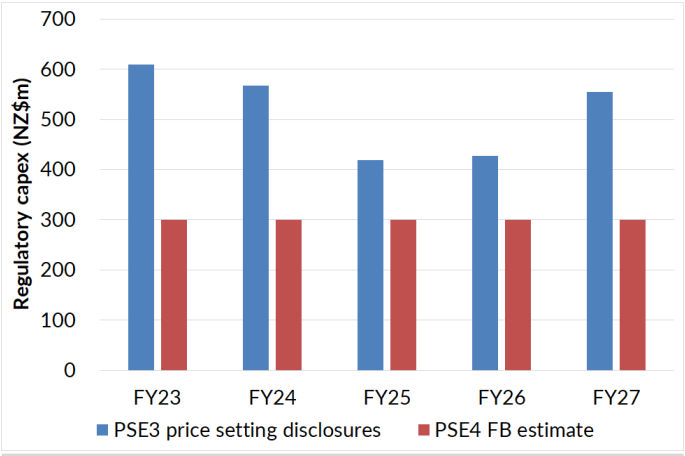
In our attempt to keep things simple we assume that aeronautical capex will recommence in FY23 at an average level appropriate for the next 10 years. In Figure 20 we calculate that the average annual level of regulatory capex to be spent through PSE4 and PSE5 will be ~NZ$300m excluding investment in the Northern Runway.

Figure 20. Estimate of average annual capex through PSE4 and PSE5

	Amount (NZ$m)
AIA assumed PSE 3 and PSE 4 capex (2017 price setting)	3,736
Less: exclude Northern Runway capex	(1,010)
Adjusted AIA assumed PSE3 and PSE4 capex	**2,726**
Less: PSE3 spent already (FY18 NZ$215m; FY19 NZ$117m; FY20 NZ$222m)	(555)
Less: PSE3 capex in FY21-FY22	(250)
Adjusted PSE4 capex and unspent PSE3 capex	**1,921**
Add: Adjust to 2021 dollars	326
Construction inflation estimate	645
Add: BAU capex for PSE5 (based on NZ$10m per year)	50
PSE4 and PSE5 regulatory capex	**2,942**
Average annual regulatory capex burden	294

Source: Forsyth Barr analysis

Figure 21. PSE4 regulatory capex will be lower than envisaged at outset of PSE3 because of Northern Runway deferral

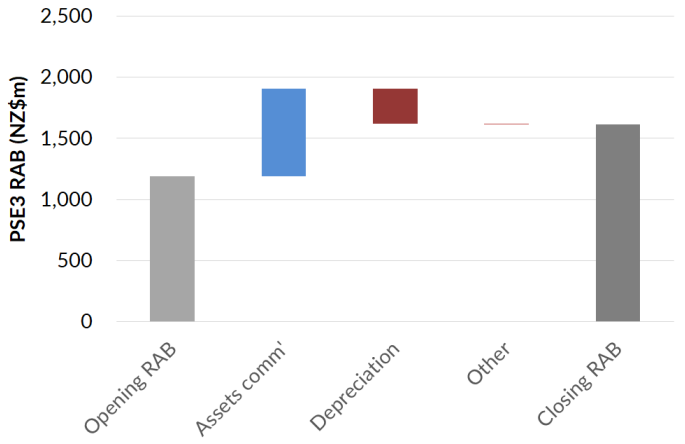


Source: AIA, Forsyth Barr analysis

Starting RAB for PSE4

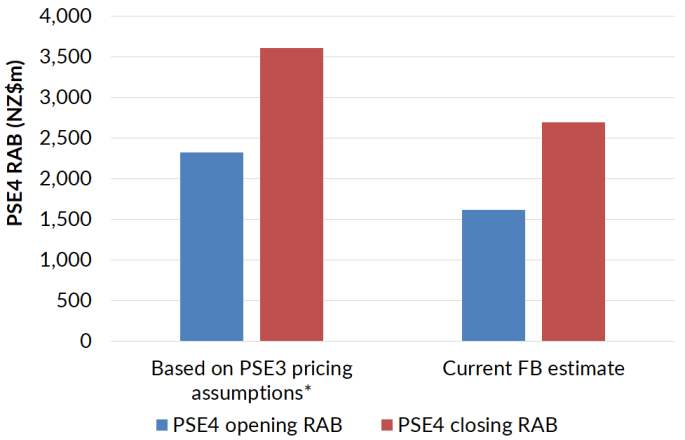
We estimate that the current pricing period, PSE3, will end with a RAB of NZ$1.6bn (Figure 22). This will then become the opening RAB for PSE4 and compares to AIA's price setting assumptions in 2017 of NZ$2.3bn (Figure 23). All else being equal a lower opening and closing RAB will mean lower aeronautical pricing. However, when the PSE4 opening and closing RAB estimates are compared to actual opening PSE3 RAB and estimated closing RAB (from Figure 22) both the PSE4 values will be higher.

Figure 22. PSE3 closing RAB estimate of NZ$1.6bn



Source: Forsyth Barr analysis

Figure 23. PSE4 opening and closing RAB will be materially lower than anticipated in 2017



Source: AIA, Forsyth Barr analysis NOTE: * closing RAB is an estimate based on PSE3 pricing assumption

On the basis of these opening and closing RAB estimates and assuming WACC of 6.7% (refer to Figure 19). We currently assume that aeronautical price increases in PSE4 from FY24 (FY23 will be based on FY22 pricing) will be high single digits (~+9%), though recognise this is likely to change ahead of PSE4 due primarily to bond rate movements.

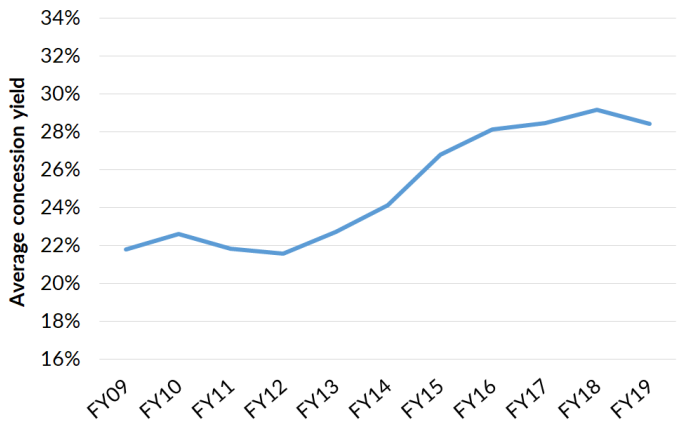
Lower return retail; more cautious concessionaires

We expect AIA's commercial assets will generate a lower return on capital post COVID-19 compared to pre COVID-19. There are several key drivers of this outlook. We recognise some of these were in play already or would have likely featured longer term irrespective of the pandemic:

- First, a **shift in the balance of power from airport to retailer** in future concession arrangements, negating some of the gains made by airports over recent years (refer Figure 24). Force majeure clauses will be the norm. Ratchet mechanisms for MAGS will likely disappear as AIA recently alluded to, and tiered variable rent structures will be more commonplace.
- Second, **on-line retail has gained further share over the past 12 months from traditional retail** and will have further eroded any lingering price perception benefits of airport retail in most categories.
- Third, the **spending patterns of higher spending Chinese pax** will be impacted by the Chinese Government's liberalisation of arrivals duty free and the Hainan Island Free Trade Port as a means of boosting domestic consumption.
- Fourth, **consolidation among travel retail players** will continue and may accelerate in the post COVID-19 world as balance sheets have been stretched.

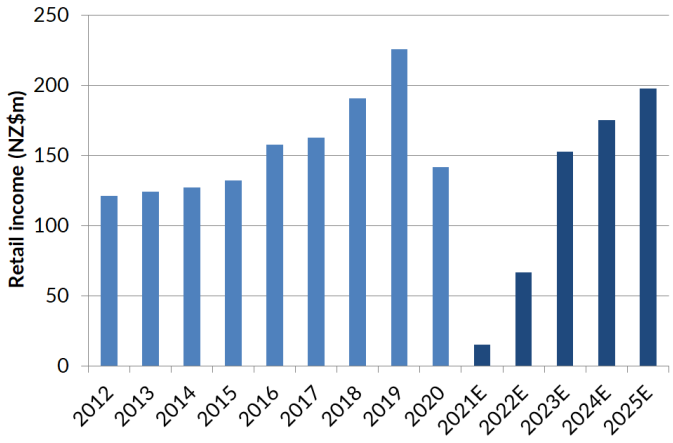
The reliance on MAGS pre COVID-19 would have ordinarily created some concerns in the next duty free tender process for AIA, however, we believe this pressure would have been offset by AIA's move to a single operator model. The majority of AIA's current concession agreements expire over the next two years. We expect the retail income that AIA is able to generate will be lower over the medium term than pre COVID-19 (Figure 25). This largely reflects the nature of AIA's pax recovery, though we also expect unit retail income (retail income per international pax) will be lower than it was tracking pre COVID-19.

Figure 24. Listed travel retailer Dufry's average concession yield paid over past 10 years has materially increased



Source: Company reports, Forsyth Barr analysis NOTE: During the timeframe shown in the chart Dufry's geographic and category mix has changed, yet we don't believe the mix changes in isolation are sufficient to explain the rise in concession yield.

Figure 25. AIA's retail income since FY12. We expect it will be unable to return to FY19 levels by FY25

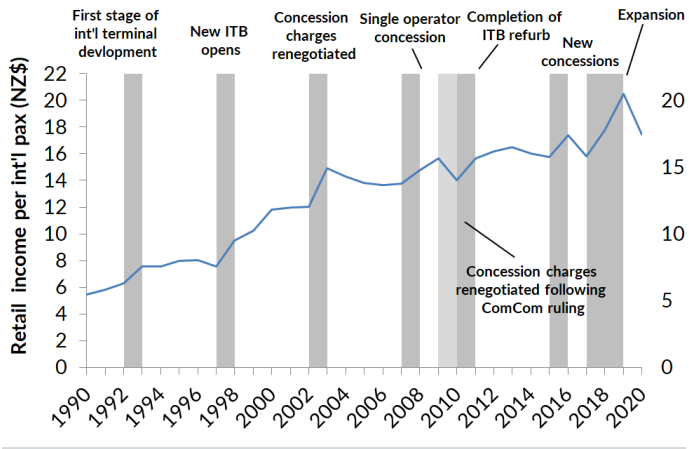


Source: AIA, Forsyth Barr analysis

Pre COVID-19 retail

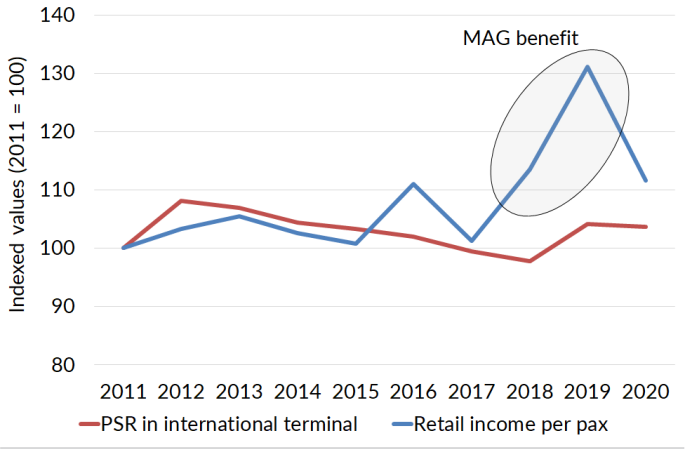
In the pre COVID-19 world, retail (and car parks) represented the highest returning assets at AIA. Consistent growth in concession yields and more sophisticated approaches to minimum annual guarantees or MAGs (i.e. ratchet mechanisms) helped lift commercial earnings at a significant page through the past decade. The balance of power between retailer and airport shifted considerably from the former to the latter.

Figure 26. Historic retail income per pax



Source: Forsyth Barr analysis

Figure 27. PSR vs retail income per pax



Source: Forsyth Barr analysis

Post COVID-19 retail

We expect concession agreements to differ in future reflecting a transfer of some risk from airport to concessionaire. This could be manifested in several ways including (1) the inclusion of force majeure clauses in concession agreements, (2) variable concession rates relative to passenger flows, and (3) a more flexible approach to MAGs.

The majority of AIA's current concessions (including the two duty free concessions) will expire over the next two years. The COVID-19 impacted travel world is not the best time for airports to go out to market with tenders for new concessions given inherent demand uncertainty, however, it hasn't stopped several airport companies doing so, including:

- **Nanjing:** China National Service Corporation (CNSC) has recently been named the highest bidder for the Terminal 2 departures duty free concession. The eight year concession covers a 1,500sq m duty free store in T2's International Departure Hall. The contract includes a MAG of ~CNY55m (~US$8m) or a ~28% monthly commission on sales, whichever is highest.
- **Martinique:** re-launched a tender covering key commercial spaces, including duty free, food & beverage, advertising and specialist retail, having initially launched it in March 2020. The three main concessions run for ten years plus a two-year period at the start to allow for traffic recovery from the COVID-19 crisis.
- **Avinor:** launched a competitive tender on 11 January 2021 for the contract to manage duty free and single-price (Travel Value) shops at its Norwegian airports, under a five-year contract. The stores at 11 airports are currently managed by Heinemann-led Travel Retail Norway. Avinor anticipates a strong rebound in pax in 2022 and a return to 2019 levels by 2024/2025.
- **Bali:** launched a multi-category tender process for commercial spaces at Bali Airport. The opportunities span the airport's international and domestic terminals and a series of packages across, retail, duty free, food & beverage and other services, under five-year contracts. The airport expects pax to return to 2019 levels in 2023.
- **Kansas City:** has initiated a process for concessions at its new terminal which opens in 2023.

AIA could decide to offer the current concessionaires extensions in order to undertake new concession tenders once pax levels had recovered.

Will and when will MAGs return?

We expect concession agreements to differ in future reflecting a transfer of some risk from airport to concessionaire. This could be manifested in several ways including (1) the inclusion of 'act of god' clauses, (2) variable concession rates relative to passenger flows, (3) a more flexible approach to MAGs. Minimal Annual Guarantees (MAGs) were quickly removed by AIA and other airports as airport traffic nose-dived in March 2020. MAGs ordinarily provide airports with very defensive retail earnings (particularly when specific retailers are under performing relative to peers).

MAGs have yet to be reinstated on domestic terminal retailers at AIA. We expect AIA has the contractual right to re impose MAGs on a retailer at any time, yet the commercial reality means that it would only do this if a specific retailer's revenue had improved sufficiently to enable it to afford to pay its MAG.

While the return of MAGs for domestic terminal retailers could happen in CY21, we expect they are unlikely to return for international terminal retailers under the current concession agreements.

Single operator model

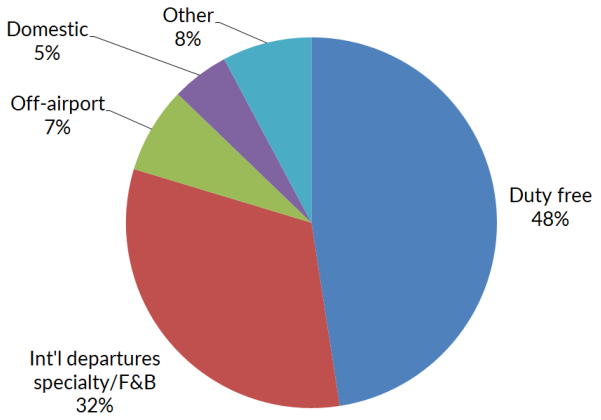
AIA's current duty free concessions will both expire within the next two years. As concluded in our report *Auckland Airport: Duty Free to Fly Solo*, dated 29 January 2020, we expect AIA to consolidate this dual concession approach into a single operator model. The airport last did this in 2008, before the Commerce Commission intervened and ultimately directed the company to return to a dual concession approach. AIA provided a undertaking that it wouldn't return to a single operator model for at least another 10 years. This period has now expired.

Figure 28. Benefit of a single operator model to MAG in 2009–2015 period

	Contract	MAG
Start of contract	4-Aug-09	
End of contract	30-Jun-15	
Contract length (years) [a]	5.9	
Reduction in MAG (NZ$m) [b]		281.6
Reduction per year (NZ$m) [c = b ÷ a]		47.7
Revised MAG for one of two operators (NZ$m) [d]		38.9
Impact on single operator model (NZ$m) [e = d - c]		8.8
Total combined MAG for twin operators (f = d x 2)		77.8
Percentage uplift from single operator [e ÷ f]		**11%**

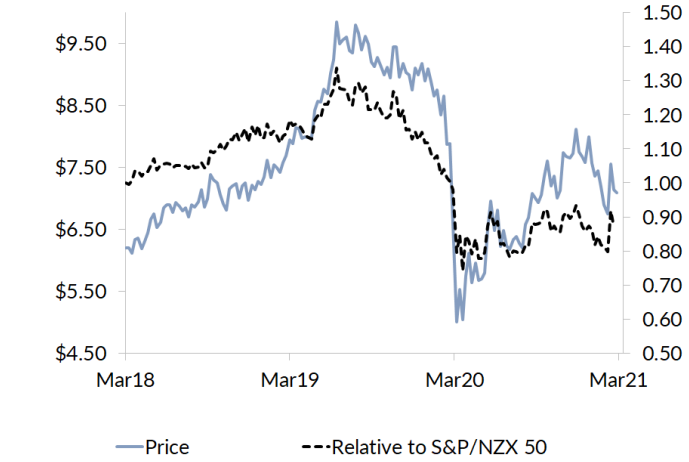
Source: Companies Office, AIA, Forsyth Barr analysis

Figure 29. Duty free is the largest contributor to retail income at AIA (pre COVID-19 estimates)



Source: Forsyth Barr analysis

Figure 30. Price performance



Source: Forsyth Barr analysis

Figure 31. Substantial shareholders

Shareholder	Latest Holding
Auckland City Council	18.1%
BlackRock Investment Management	5.0%

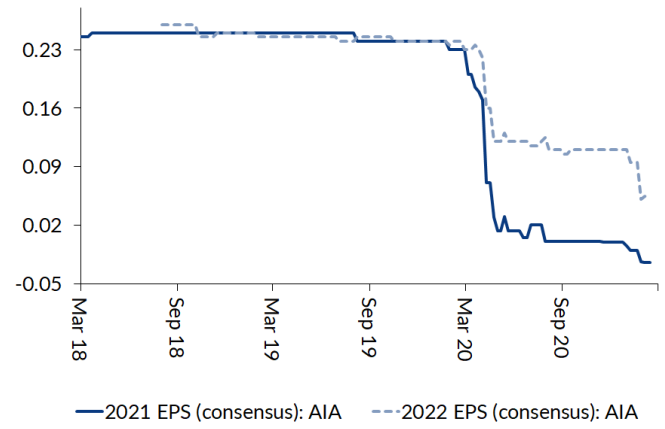
Source: NZX, Forsyth Barr analysis, NOTE: based on SPH notices only

Figure 32. International valuation comparisons

Company	Code	Price	Mkt Cap	PE		EV/EBITDA		EV/EBIT		Cash Yld
(metrics re-weighted to reflect AIA's balance date - June)			(m)	2021E	2022E	2021E	2022E	2021E	2022E	2022E
Auckland Airport	**AIA NZ**	**NZ$7.09**	**NZ$10,436**	**<0x**	**>50x**	**74.2x**	**40.5x**	**>75x**	**69.7x**	**0.4%**
SYDNEY AIRPORT	SYD AT	A$5.95	A$16,057	<0x	<0x	40.0x	31.8x	>75x	>75x	2.4%
MALAYSIA AIRPORTS HLDGS BHD	MAHB MK	RM6.33	RM10,503	<0x	2.3x	<0x	12.0x	34.4x	47.7x	8.1%
FLUGHAFEN WIEN AG	FLU AV	€30.30	€2,545	<0x	<0x	38.3x	14.3x	63.4x	>75x	0.9%
FLUGHAFEN ZURICH AG-REG	FHZN SW	CHF166.10	CHF5,100	>50x	>50x	28.9x	15.2x	6.0x	49.2x	1.8%
FRAPORT AG FRANKFURT AIRPORT	FRA GY	€53.90	€4,984	<0x	<0x	<0x	17.0x	<0x	<0x	1.3%
AIRPORTS OF THAILAND PCL	AOT TB	THB68.00	THB971,428	<0x	32.0x	<0x	<0x	<0x	16.7x	0.5%
BEIJING CAPITAL INTL AIRPO-H	694 HK	CN¥6.23	CN¥28,528	46.8x	>50x	>75x	12.9x	18.3x	38.5x	1.5%
			Compco Average:	**46.8x**	**17.1x**	**35.7x**	**17.2x**	**30.5x**	**38.0x**	**2.3%**
EV = Current Market Cap + Actual Net Debt			**AIA Relative:**	**n/a**	**n/a**	**108%**	**135%**	**n/a**	**83%**	**-84%**

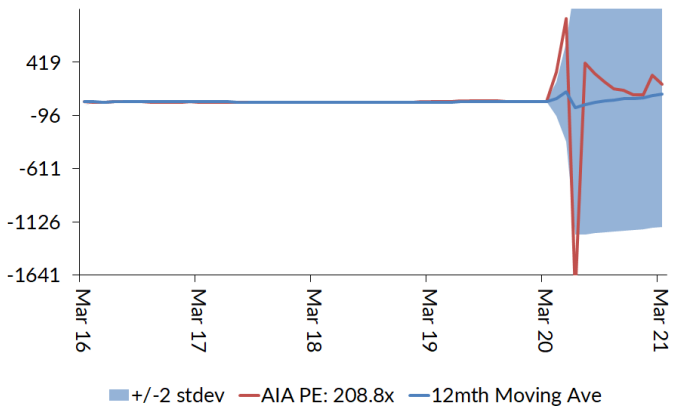
Source: *Forsyth Barr analysis, Bloomberg Consensus, Compco metrics re-weighted to reflect headline (AIA) companies fiscal year end

Figure 33. Consensus EPS momentum (NZ$)



Source: Forsyth Barr analysis

Figure 34. One year forward PE (x)



Source: Forsyth Barr analysis

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