

The logo for NZ AIRPORTS, featuring the text "NZ AIRPORTS" in white, uppercase, sans-serif font on a light blue background. The background of the entire slide is a light blue sky with white clouds, and the logo is positioned in the bottom left corner of a blue rectangular area.

NZ AIRPORTS

PEER REVIEW
BARNZ ANALYSIS OF NEW ZEALAND
AIRPORT CHARGES
17 AUGUST 2012



EXECUTIVE SUMMARY

WORK UNDERTAKEN BY AIRBIZ

- Airbiz has been commissioned by the New Zealand Airports Association (NZ Airports) to review an analysis of New Zealand airport charges provided by BARNZ to the New Zealand Commerce Commission.
- BARNZ collated landing charge data for 25 New Zealand airports and estimated the total landing charges for five aircraft types at each airport as well as the implied price per passenger, price per seat and price per tonne MTOW.
- BARNZ also reviewed international landing charges at 22 airports comprising seven in New Zealand, six Australian and nine other ports in Asia, North America and Europe. The analysis examined the costs for seven aircraft types.

FINDINGS

- In general, BARNZ's estimates of domestic charges reconcile reasonably closely to the Airbiz calculations. There were several errors in the BARNZ calculations. However these do not adversely affect the general conclusions that can be drawn from the data.
- Airbiz was able to replicate most of the charge estimates in BARNZ's international charge analysis, and to that extent the analysis provides a reasonable comparison of New Zealand and offshore airport charges.

USE OF BENCHMARKING DATA

Airbiz concluded that:

- Benchmarking data can provide useful indicators of overall market positioning.
- Detailed comparisons of specific markets or airports should only be undertaken with care to ensure underlying differences in the structure of charges or airport characteristics are identified and where necessary adjusted for.

CHARGE COMPARISONS

- The BARNZ analysis shows that New Zealand international airport charges are below the average of a sample of international airports. The analysis was consistent with other recent analysis undertaken for Auckland and Wellington airports and information provided to the Australian Productivity Commission in its recent inquiry into the economic regulation of airport services.
- The overall conclusion of the Productivity Commission was that charges at Australian airports along with those at AKL, WGL and CHC airports are in the mid to lower range of charges applied at a large sample of major airports.
- Airbiz's comparison of New Zealand airport domestic charges demonstrates that average domestic New Zealand airport charges are between half and a quarter of average Australian domestic charges.
- The BARNZ and Airbiz analysis both show that, in general, charges on a per passenger basis for turbo-prop aircraft are considerably lower than those for domestic jets. As well, the Airbiz analysis highlights that per passenger turbo prop charges are significantly lower in New Zealand than in Australia.

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INTRODUCTION

BACKGROUND

Airbiz has been commissioned by the New Zealand Airports Association (NZ Airports) to review an analysis of New Zealand airport charges provided by BARNZ to the New Zealand Commerce Commission. NZ Airports was seeking:

- Comments on the appropriateness of the methodology employed by BARNZ.
- Confirmation that the BARNZ calculations are accurate and based on the appropriate airport charges.
- Advice on further work considered appropriate to supplement the information presented by BARNZ. For example, international benchmarking for turbo-prop or other aircraft types to that selected by BARNZ
- Limitations to consider in interpreting the benchmarking data.
- Observations or conclusions that may be drawn from the data, concentrating on observations relevant to the New Zealand airport sector.

The following presentation addresses each of these issues in turn.



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BARNZ METHODOLOGY

2.1 Background

Airbiz was provided with four Excel workbooks containing the BARNZ data and analysis. The files were:

- Airport RABs JUL12.xlsx
- CC Benchmarking Per Pax Costs Intl – JUL12.xlsx
- Copy of Domestic Charges at 2016 JUL12.xlsx
- Domestic Charges 25JUN12.xlsx.

Our review of the BARNZ methodology for domestic charges has concentrated on the file “Copy of Domestic Charges at 2016 JUL12.xlsx”. The approach used in the second file, “Domestic Charges 25JUN12.xlsx” is largely the same, albeit applying different charges as it reviews a different period. The file “Airport RABs JUL12.xlsx” contains six short columns of data and one chart of the asset bases for ten of the airports reviewed in the file “CC Benchmarking Per Pax Costs Intl – JUL12.xlsx”. This file summarised BARNZ’s estimates of the airport charges associated with operating seven different aircraft types at 22 airports in New Zealand, Australia, Asia, North America and Europe.

2.2 BARNZ domestic analysis methodology

BARNZ collated landing charge data for 25 New Zealand airports. As noted in the letter from Mr John Beckett to Ms Ruth Nichols (undated), the BARNZ approach:

- Included all charges received by an airport associated with landing and aircraft and the movement of passengers through the terminal.
- Excluded charges paid to third parties (e.g. Civil Aviation or AvSec).

BARNZ estimated the total landing charges for five aircraft types at each airport and also calculated the implied price per passenger, price per seat and price per tonne MTOW. The charges for AKL, CHC’s 2012 initial pricing proposal (IPP), DUD, ZQN and WLG are calculated from data inputs. The charges for all other airports were direct inputs and further analysis in these cases was more difficult.

BARNZ METHODOLOGY



2.3 Key Assumptions

2.3.1 Domestic analysis

The configuration assumptions for the five domestic aircraft types used in the study were:

Aircraft Type	Seats	Pax	MTOW (tonne)
A320 - NZ	171	128	71.500
B737-300	133	100	56.472
ATR 72	68	51	22.800
Beech 1900	19	14	7.765
Q300	50	38	19.505

Passenger numbers were estimated assuming an average load factor of 75%.

2.3.2 International analysis

The analysis examined the costs for seven international configuration aircraft types.

Aircraft Type	Seats	Pax	MTOW (tonne)
A320	168	126	77.000
B737-300	133	100	63.276
B737-800	168	126	79.015
B767-300	230	173	186.880
B777-200	304	228	297.556
B777-300	338	254	351.534
B747-400	379	284	396.890

The BARNZ analysis in CC Benchmarking Per Pax Costs Intl – JUL12.xlsx reviewed international landing charges at 22 airports comprising seven in New Zealand, six Australian and nine other ports in Asia, North America and Europe.

As with the domestic analysis passenger numbers were estimated using an average load factor of 75%.

BARNZ METHODOLOGY

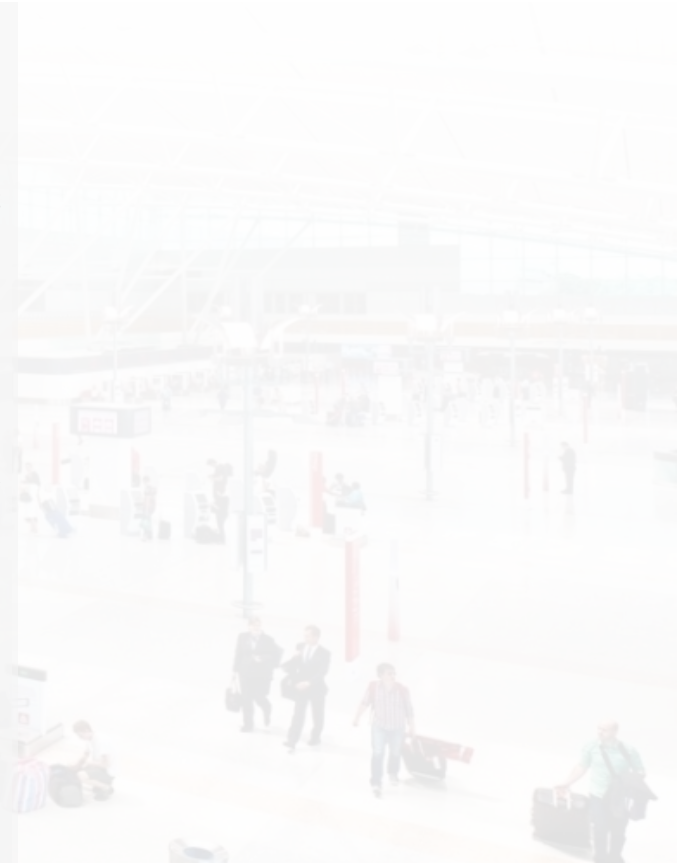


2.4 Comments

The BARNZ approach is generally appropriate where charges are being compared between airports in the same country.

Where comparisons are made with the charges at airports in other countries (e.g. Australia), differences in the way that charges such as terminal navigation, security and rescue fire charges are levied need to be taken into account. The usual adjustments are to exclude or include costs for airports in one or the other country so that the adjusted total costs are broadly comparable.

BARNZ has attempted to do this insofar as it has included rescue fire charges and excluded security charges for Australia airports. This makes comparisons with New Zealand airports more appropriate.



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ACCURACY

3.1 Background

To review the accuracy of the BARNZ analysis of domestic charges Airbiz estimated the charges for 19 of the 25 airports included in the BARNZ analysis. The excluded airports were Hokatika, Kaitaia, Kerikeri, Timaru, Whakatane and Whangarei. The data used in the analysis were obtained from the airports directly or from their websites or publications. The model used for the analysis derives airport charges for each aircraft type. In this case the airport charges included recoveries from both airlines and passengers. Airbiz has used the same aircraft configuration and load factor assumptions in its analysis as that used by BARNZ.

Airbiz tested the BARNZ analysis of international charges using a similar approach. The following sections summarise the evaluations.

3.2 General comments on benchmarking

The approach taken by BARNZ can be useful for comparing charges between similar airports. However, as with any benchmarking exercise the results should be interpreted with care. For example, two otherwise identical airports with different levels of traffic may have quite different levels of charges. Nevertheless they may both earn a rate of return in line with their cost of capital. Having higher charges than a sample average does not mean an airport is over-recovering or earning excess profits. In the case of some small regional airports, above average charges may still result in under-recoveries.

In its recent report on the Economic Regulation of Airports¹, the Australian Productivity Commission concluded that benchmarking identifies airports' relative performance and could be used by airport management as an indicator of relative performance against similar overseas and Australian airports.

The Commission also noted that benchmarking could also be applied by regulators "to foster 'yardstick competition'" – albeit that it had not been successfully applied to airports.

To be useful, airports should be benchmarked against a sample with similar characteristics.

However the Commission also noted that differences across airports, data limitations and competing methodologies were significant impediments. Furthermore if not constructed and interpreted carefully, there was a risk that inaccurate policy inferences will be drawn from unreliable estimates.

Therefore, in general, benchmarking is meaningful where airports:

- Have similar levels of of passenger and aircraft traffic.
- Provide the same set of services – which might include security, terminal navigation, ground handling.
- Provide the same level of service and a similar quality of facilities.
- Have similar locations and associated land and infrastructure costs e.g. large city versus regional.
- Have a similar number of carriers operating from the port and therefore experience a similar level of countervailing power.
- Are compared over similar time frames.

Furthermore it is unwise to draw specific conclusions about an individual airport without evaluating underlying operational and financial data.

1. Productivity Commission Inquiry Report, Economic Regulation of Airport Services, No. 57, 14 December 2011.

ACCURACY



3.3 Evaluation of the BARNZ domestic analysis

Two sets of domestic charge analysis were provided by BARNZ, one for the 2012 financial year and one for the projected 2017 financial year. In general the 2012 evaluation was broadly consistent with the analysis undertaken by Airbiz for NZ Airports.

The BARNZ analysis that included AKL, WLG and CHC charges applying in FY 2017 included a number of errors. In particular:

- The BARNZ estimates for domestic jet charges at Wellington have applied the 2016 International passenger charge (\$8.52) for WLG instead of that for domestic jets (\$5.52). The estimates for the turboprop aircraft and for earlier periods appear correct.
- At Queenstown BARNZ has applied a per passenger rate for turboprop aircraft of \$5.97 instead of the correct rate of \$6.97.
- BARNZ has applied higher rates at Palmerston North than Airbiz calculates are appropriate.
- In the case of Rotorua and Hamilton BARNZ appears to have ignored the passenger departure charge.
- BARNZ estimates of the charges at a number of the smaller regional ports may require revision as they do not reconcile with numbers provided to Airbiz.

- The 2016/2017 BARNZ analysis was inconsistent as it compared the 2016/2017 charges for AKL and WLG (and the IPP charges for CHC) against current charges for other airports.

The 25 airports used in the analysis provided a broad sample of New Zealand international, domestic, regional and hub airports. A possible enhancement may have been grouping the charges for each aircraft type into those at international and major metropolitan domestic airports, and those applied at other regional domestic ports. This is in line with the Australian Productivity Commission's comments about ensuring comparability between ports when benchmarking.

Grouping the comparisons by aircraft type resulted in a smaller number of comparator airports for the larger aircraft types. The B190 was the only aircraft type evaluated over all 25 ports.

Despite these issues, BARNZ's overall estimates of domestic charges reconciled reasonably closely to the Airbiz calculations and the errors did not adversely affect the general conclusions that could be drawn from the data.

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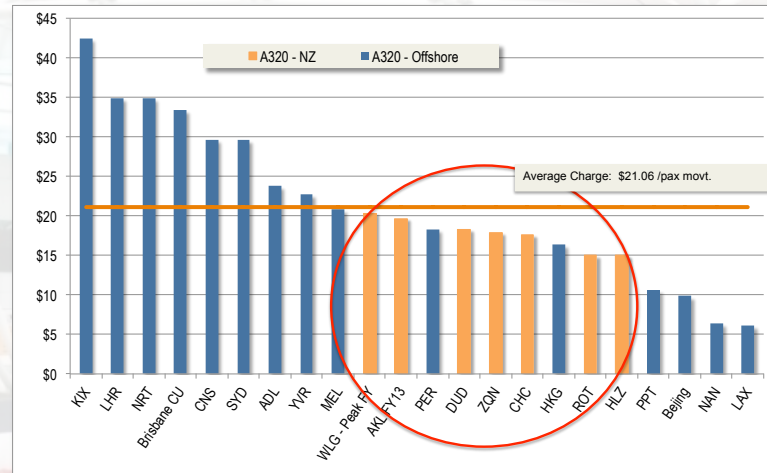
3.4 BARNZ international analysis

BARNZ estimated the international landing charges and fees paid to airports for operating seven aircraft types at the 22 airports listed in the following table.

New Zealand	Australia	Pacific	Asia	North America	Europe
Auckland	Sydney	Nadi	Narita	Vancouver	London Heathrow
Hamilton	Melbourne	Papeete	Kansai	Los Angeles	
Rotorua	Brisbane		Hong Kong		
Wellington	Perth		Beijing		
Christchurch	Cairns				
Queenstown	Adelaide				
Dunedin					

The chart opposite shows the estimated per passenger movement costs for an A320 at each of the 22 airports expressed in New Zealand dollars. The average per passenger movement costs for the seven New Zealand airports all lie below the average of \$21.06 per movement. The New Zealand airport sample average is \$17.67 compared to the average of \$22.64 for the overseas ports.

The results for the other six aircraft types produced similar outcomes



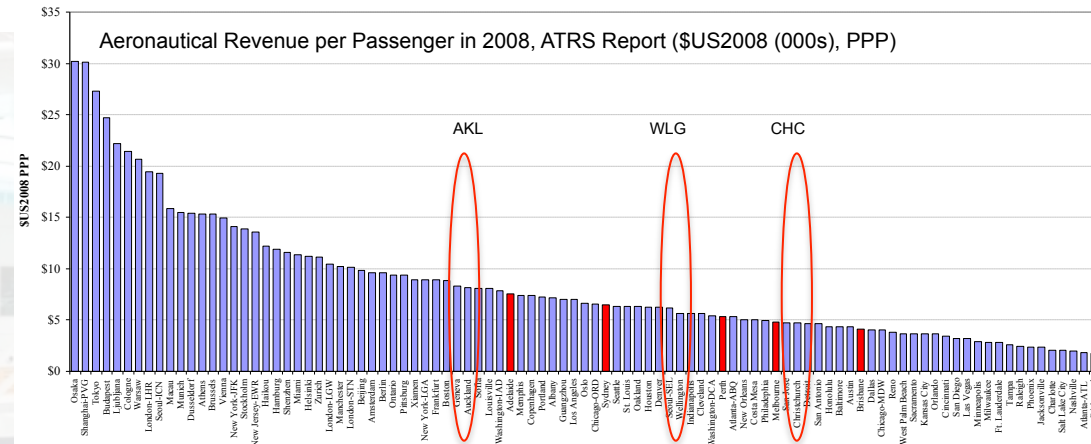
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Airbiz understands that this outcome is consistent with other reviews of charges undertaken for Auckland and Wellington airports.

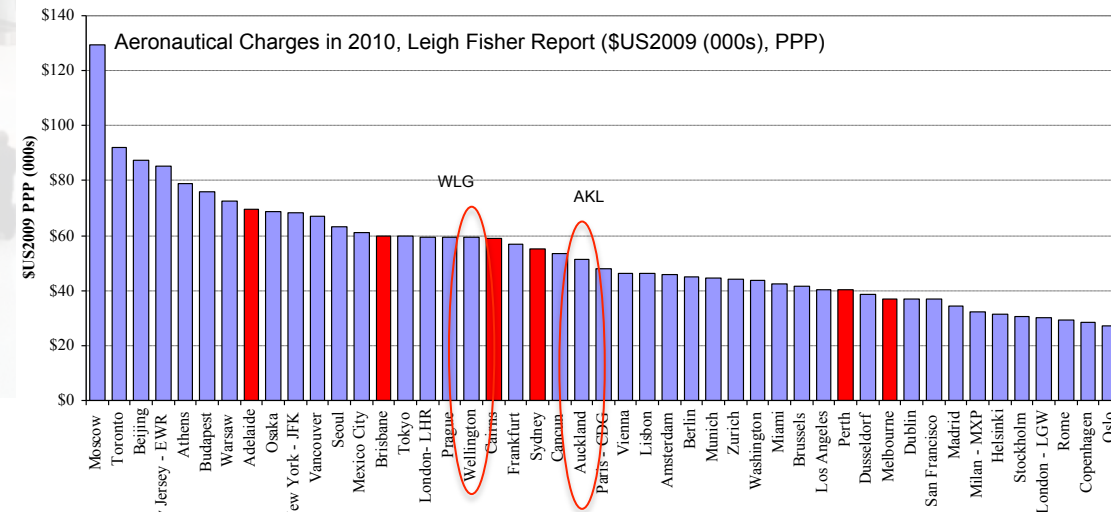
The outcome is also consistent with research provided to the Productivity Commission in its recent inquiry². The Australian Airports Association provided research by the Air Transport Research Society³ (ATRS) while Melbourne Airport provided research by LeighFisher⁴.

The Productivity Commission concluded that, with some caveats, the two benchmarking studies suggested that, relative to their overseas counterparts, aeronautical revenue per passenger. Australian airports was relatively low.

Two charts from the research are shown opposite. They demonstrate the overall conclusion that Australian airports are in the mid to lower range as are AKL, WGL and CHC airports.



Source: Air Transport Research Society (2010) from Australian Airports Association (sub. 18) Productivity Commission Inquiry Report, Economic Regulation of Airport Services.



Source: Leigh Fisher Performance and Charges Benchmarking Study (2011) from Melbourne Airport (sub. 29) Productivity Commission Inquiry Report, Economic Regulation of Airport Services.

2. Ibid.
3. Air Transport Research Society, Airport Benchmarking Report 2010 - Global Standards for Airport Excellence, April 2010.
4. Leigh Fisher Management Consultants, Melbourne Airport Performance and Charges Benchmarking Study, February 2011

ACCURACY

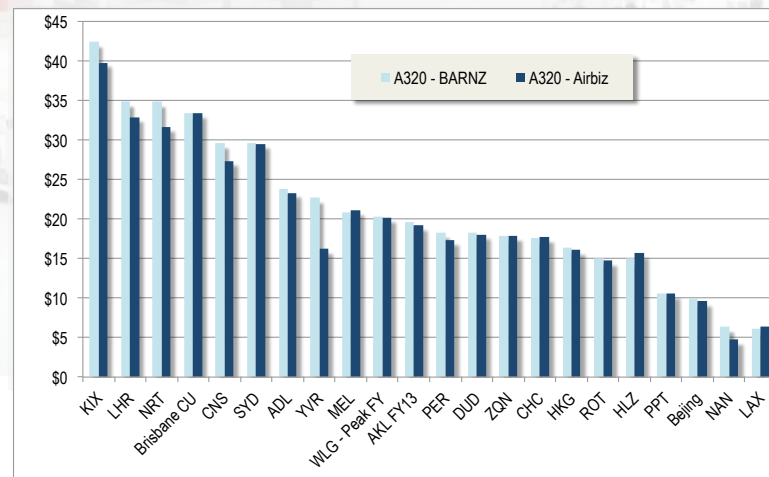
3.4.1 Comments on the BARNZ analysis.

Airbiz evaluated the BARNZ analysis against data from the IATA Airport, ATC and Fuel Charges Monitor and other published sources. The results for the A320 are shown in the chart opposite. In general, Airbiz was able to replicate the estimated charges included in the BARNZ analysis.

However, the following points were noted:

- The analysis compared the 2016/2017 charges for AKL and WLG (and the IPP charges for CHC) against current charges for other airports. This is clearly an inconsistent comparison.
- BARNZ appears to have included or excluded security charges inconsistently. For example, security charges are included in total turnaround costs at Vancouver (YVR) but not at other ports.
- Likewise, departure fees or charges have been included in the evaluation of costs at Hong Kong and Rotorua, for example, but not at other ports such as Hamilton.
- BARNZ has estimated charges and costs from per passenger charges on the basis of there being no exemptions for infants or passengers less than the minimum age. Exemption rates vary but are normally in the range of 2% to 5%. Ignoring exemptions will bias cost estimates upwards.

- In a number of cases, such as the estimates of international departure charge revenues at Rotorua and Hamilton, the GST exclusive value is based on a 12.5% GST rate rather than the current 15% rate. This omission results in the costs being overstated.
- Although not used directly in this analysis the BARNZ workbook also contains a number of out of date estimates of New Zealand Aviation Security and Civil Aviation charges.



ACCURACY

3.5 Concluding comments

Airbiz was able to replicate the BARNZ estimates or could explain why the two sets of estimates differed. Airbiz noted a number of errors and omissions which although requiring correction do not alter the overall direction of the findings which were that:

- Average international airport charges at the sample of seven New Zealand airports are lower than the average for a sample of 15 offshore airports.
- The international charges at all New Zealand airports were below the total sample average.
- The results of the BARNZ domestic analysis were comparable (with three exceptions) to the results of the Airbiz analysis for the same airports.
- The BARNZ international analysis was consistent with other recent published analysis undertaken for Auckland and Wellington airports and information provided to and noted by the Australian Productivity Commission.



04

FURTHER ISSUES

4.1 Background

NZ Airports has requested that Airbiz advise on further work that it considers to be appropriate to supplement the information presented by BARNZ.

This section discusses the results an extension of the BARNZ analysis by benchmarking a number of New Zealand airports against a sample of Australian airports. The analysis compares the adjusted charges for the five aircraft types used in the BARNZ domestic analysis and includes charges for ALK and WLG for the 2012 and 2013 financial years.

4.2 Benchmarking domestic charges

Airbiz has undertaken a number of benchmarking studies of domestic airport charges in New Zealand and Australia. To make a meaningful comparison between domestic charges in New Zealand and Australia two adjustments are required.

- The addition of rescue fire charges to Australian airport charges. These are included in New Zealand charges but are difficult to back-out accurately.
- The exclusion of security charges from Australia charges. These are usually identified separately and although notionally a pass-through, should be excluded for the sake of comparison⁵.

In this analysis Airbiz has adopted the same aircraft configuration and load factor assumptions as BARNZ.

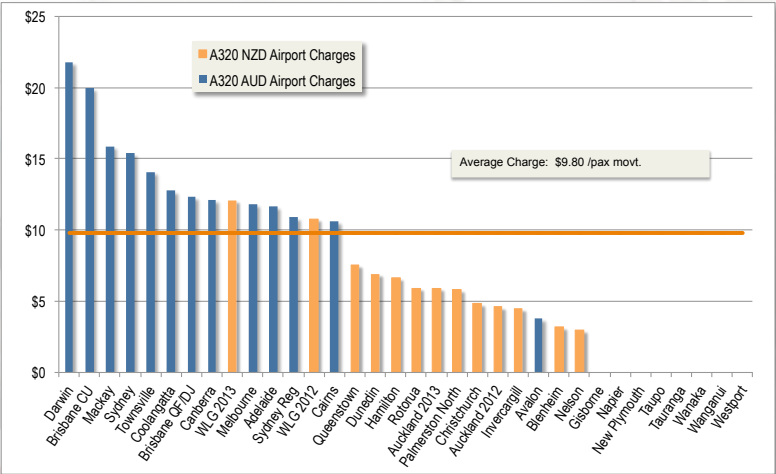
The results for each aircraft type, expressed as the charge per passenger movement are summarised below.

5. There are also differences in the rental obligations for space occupied by regulatory services. However these are more difficult to identify and to make adjust for.

FURTHER ISSUES

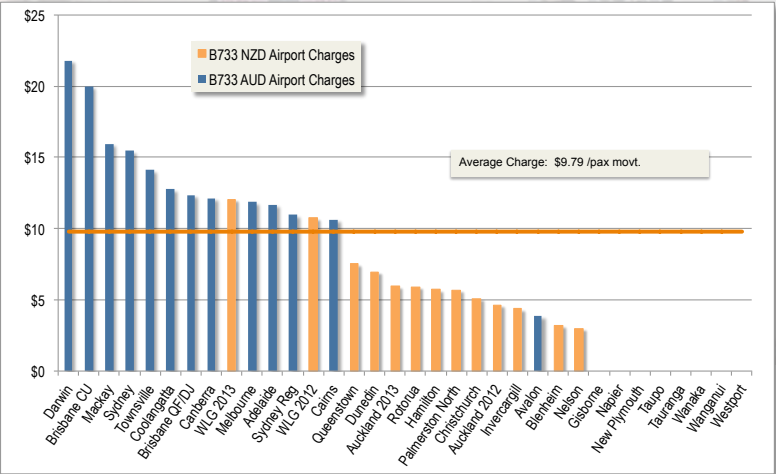
4.2.1 A320

The overall average charge for the A320 is \$9.80. However this masks the difference between the Australian and New Zealand ports. The average New Zealand charge is \$6.26 compared to \$13.33 for the Australian ports.



4.2.2 B733

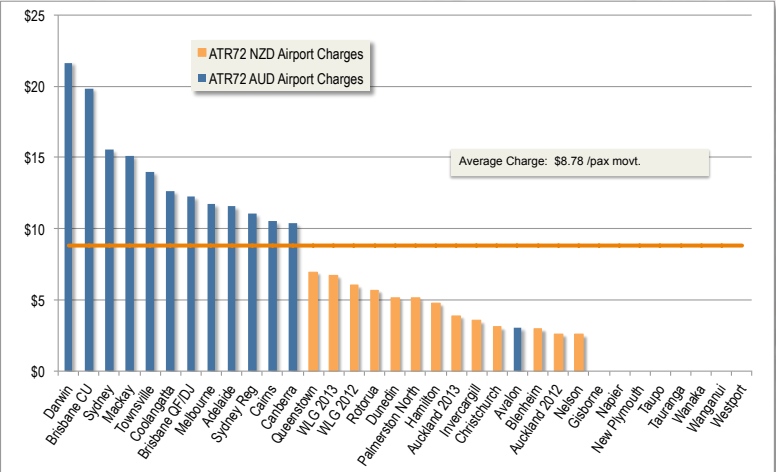
The overall average charge for the B733 is similar to that of the A320 at \$9.79 per passenger movement. The average New Zealand charge is \$6.22 compared to \$13.35 for the Australian ports.



FURTHER ISSUES

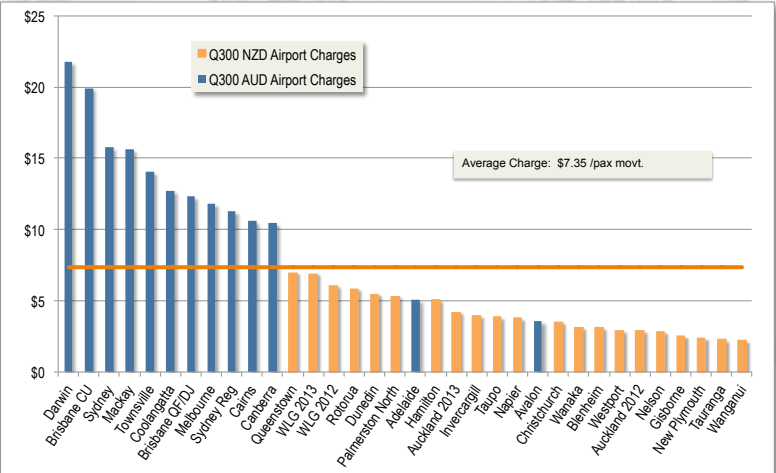
4.2.3 ATR72

The overall average charge for the ATR 72 is \$8.78 with an average New Zealand charge of \$4.55 compared to \$13.02 for the Australian ports.



4.2.4 Q300

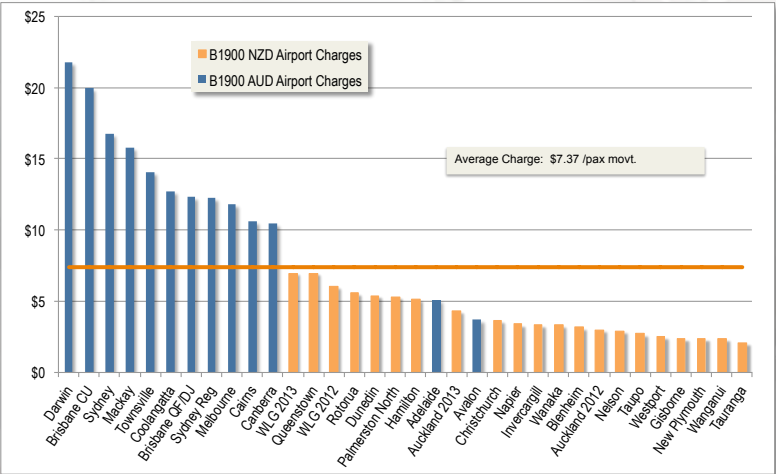
The overall average charge for the Q300 is \$7.35 with an average New Zealand charge of \$4.06 compared to \$12.68 for the Australian ports.



FURTHER ISSUES

4.2.5 B1900

The overall average charge for the B190 is \$7.37 with an average New Zealand charge of \$3.96 compared to \$12.88 for the Australian ports.



FURTHER ISSUES

4.3 Concluding comments

BARNZ's preceding analysis of domestic charges, and the results discussed in this section, show that in general charges expressed on a per passenger basis for turbo-prop aircraft are considerably lower than those for domestic jets. As well, the Airbiz analysis highlights a significant difference in per passenger turbo prop charges between Australia and New Zealand.

Airbiz considers that there are a number of possible reasons for this including:

- The predominance in New Zealand of MTOW based airfield charging approaches, and
- The countervailing power of one single customer at most New Zealand regional airports.

MTOW versus passenger based charges

The majority of regional airports in New Zealand levy airfield charges on a MTOW basis, often with lower per MTOW charges for lighter aircraft. This approach results in turbo prop aircraft having much lower costs per passenger or per seat than larger domestic jet aircraft. It is a moot point exactly how much extra cost a heavier aircraft generates. However, it is worth bearing in mind that a large proportion of airfield costs are fixed and to that extent, aircraft movements, not necessarily weight, may be a bigger cost driver.

In general, moving to a single per pax airfield charge, instead of a MTOW charge, leads to an increase in total charges for turbo-prop aircraft. Australian airports tend to use uniform per passenger charges to recover airfield costs more than New Zealand airports do. This may go some way to explain why turbo prop charges are generally higher in Australian than at New Zealand airports.

Issues of countervailing power.

The countervailing power of a dominant airline has been noted in Cabinet papers and Ministerial briefing papers⁶. Countervailing power might be exercised by a dominant airline through the threat of the withdrawal of services or in some cases judicial review. To the extent that countervailing power is exercised, the charges for turbo-prop aircraft at small New Zealand regional airports will generally be lower than at airports in Australia where there are a larger number of airline users.

6. NZ Cabinet paper: Economic Regulation of Regional Airports: Report on the Nature and Scope of any issues, EGI Min(09) 17/34

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