



MCKELL INSTITUTE

Australian Aviation and COVID-19
Analysis of support and impact

January 2021

About this report

This report seeks to quantify the impacts of COVID-19 on the Australian aviation industry, assess the extent of government support provided to the industry, and to quantify the importance of aviation to Australian communities.

This work builds upon our June 2020 report *Australian Aviation After COVID-19: the need for an Australian Aviation Plan*.

This report was commissioned by the International Transport Workers' Federation.

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1. – 2020: An unprecedented year

Key points

1. COVID-19 has decimated the aviation market globally and in Australia.
2. Australia’s usually busy skies have been quiet, and this is having an effect on jobs.
3. The aviation industry’s recovery will be much slower than the downturn, due to the staggered reopening of international travel routes, the impacts of a broader economic downturn, and the collapse of consumer and business confidence.

The COVID-19 crisis has re-exposed the vulnerability of global aviation networks to sudden shocks and along with it the dependence of Australia’s economic interests on them, as an open and liberal trading nation.

All around the world, governments have taken major steps to first contain the virus and then put their aviation sectors on life support. By the beginning of April, at least 144 countries had enacted containment measures including shutting borders to foreigners, ceasing international passenger flights and even closing airports.¹

The impact on airlines and their supply chains of these measures was immediate and escalated rapidly.

By mid-April, an estimated 12,400 aircraft had been placed into storage and passenger revenues for 2020 were forecast to be down \$314 billion on the previous year, a drop of 48% compared to around 16% that occurred during the GFC. The International Air Transport Association (IATA) estimated that at the start of the year 75% of its members had less than three months cash to cover costs² and predicted that many will run out cash before the recovery even begins.

<i>IATA Impact Assessment</i>	<i>Initial 20 Feb³</i>	<i>Second 5 March⁴</i>	<i>Third 27 March⁵</i>	<i>Fourth 14 April⁶</i>
<i>Forecast</i>	-\$29.3 billion -4.7%	\$113 billion -19%	-\$252 billion -28%	-\$314 billion -48%

Figure 1.1: International Air Transport Association impact assessment on the aviation industry.

The International Civil Aviation Organisation (ICAO) expects that the effects of COVID-19 on international aviation industry to be significant. Compared to a business as usual expected baseline, ICAO estimates that globally during the calendar year 2020 there will be a 51% reduction in seats offered by airlines, and an overall reduction of close to 2.9 billion passengers, resulting in a loss of gross passenger operating revenue of around \$US 390 billion.⁷

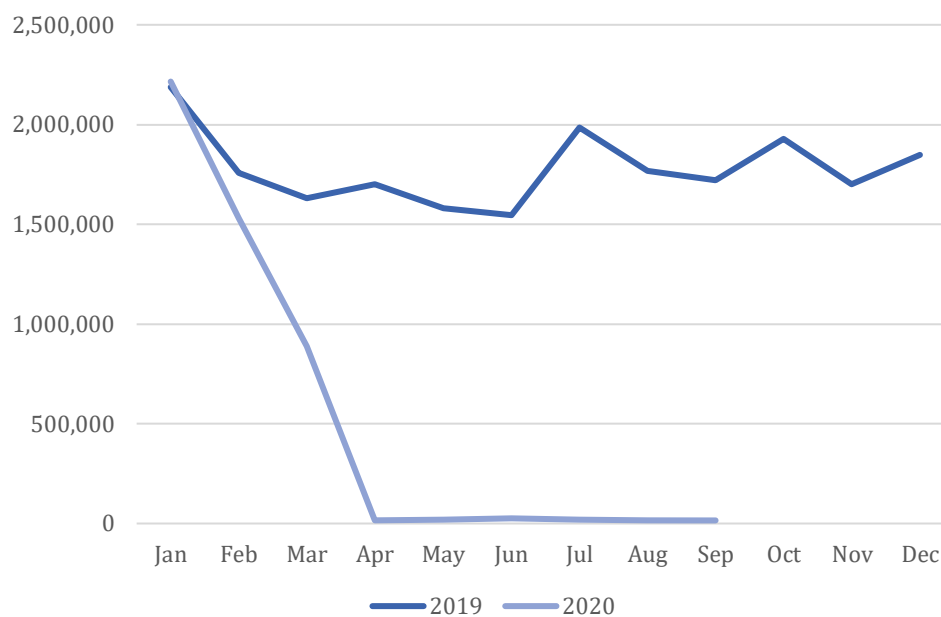
These losses are expected to continue, at a slightly reduced rate, over the first half of 2021.

Air travel to and from Australia has virtually stopped

Total passenger movements to the year ending September 2020 was 52.4% lower than the corresponding period to September 2019.⁸

Incoming international passenger numbers to Australia fell precipitously during the first few months of 2020, declining from more than 2.2 million in January, to a monthly average of around 18,700 from April to September (see Figure 1).

Figure 1: Incoming international passengers 2019 & 2020



Source: Bureau of Infrastructure and Transport Research Economics (BITRE)

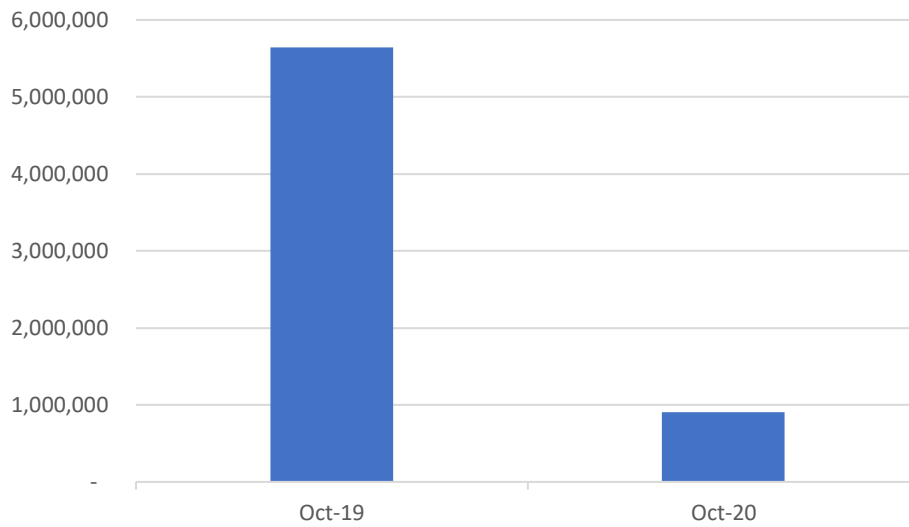
The Commonwealth Budget 2020-21 assumed that international travel is expected to remain low until the latter part of 2021.⁹

Domestic travel has also slowed

According to the Bureau of Infrastructure and Transport Research Economics there was a 79.4 per cent decrease in domestic commercial aviation activity in October 2020 compared to the same time in the previous year.

The Melbourne to Sydney route accounted for 14.6% of all domestic air passengers in October 2019, or around 823,000 passengers in that month. In October 2020 just 11,000 passengers flew that route, a reduction of 98.7%.

Figure 2: Domestic passengers carried - Oct 2019 vs Oct 2020



Source: BITRE

Aviation is a big employer of Australians

Australia's aviation sector is a significant employer. Pre-pandemic it employed more than 40,000 direct employees at the two big airline groups and more than 50,000¹⁰ additional employees employed in the rest of the supply chain or by smaller carriers.

The collapse of Virgin Australia during the pandemic, the administration process and subsequent relaunch of the airline is estimated to reduce the size of the airline's workforce by one-third.¹¹

Qantas Airlines has cut around 8,500 jobs from its pre-COVID workforce.¹²

Jobs that the aviation sector tends to provide are typically more secure and better remunerated than average. The Australian Government's JobOutlook service compiles data on earnings and jobs growth across non-managerial positions. It shows the four classes of jobs in the sector are well remunerated, particularly when compared to other jobs of a similar skill level.

Table 1: Pay and job prospects for non-managerial jobs in the aviation sector

	<i>Air Transport Professionals¹³</i>	<i>Aircraft Maintenance Engineers</i>	<i>Aircraft Baggage Handlers and Airline Ground Crews</i>	<i>Flight Attendants</i>
<i>Weekly Full-Time Pay (Median)</i>	\$2,558	\$1,890	\$1,375 ¹⁴	\$1,340
<i>Rank overall</i>	13 of 306	79 of 306	166 of 306	183 of 306
<i>Rank by skill</i>	11 of 103	8 of 54	16 of 65	28 of 54
<i>Anticipated Jobs Growth</i>	Moderate	Stable	Strong	Moderate
<i>Unemployment</i>	Lower	Lower	Lower	Lower
<i>Jobs</i>	19,400	10,900	5,800	8,500
<i>Skill level</i>	Very high	Medium	Lower	Medium
<i>Full-time share</i>	78%	94%	63%	51%
<i>Female share</i>	9%	3%	13%	74%

Source: Australian Government JobOutlook

The sector is of course not immune to other structural inequalities embedded in the Australian economy: for instance, with flight attendants being the lowest paid of the four jobs despite a higher skill level, their full-time pay is on par with the national median of \$1,342.

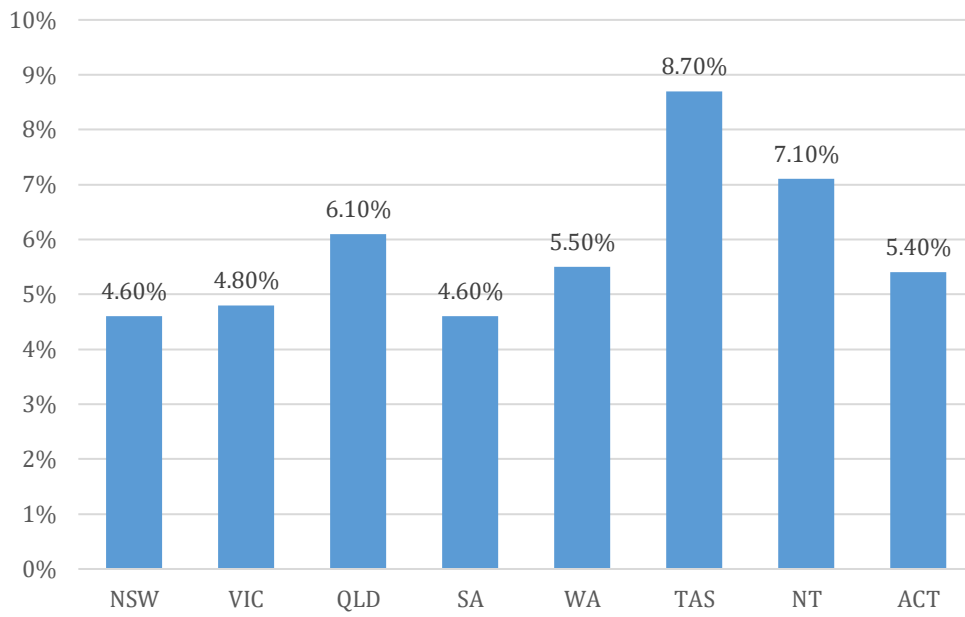
Once the significant over-representation of females in the profession is accounted for, flight attendant pay is actually 8.5 per cent higher than the median full-time female of \$1,235 per week in 2018.¹⁵ A reminder that aviation employers have as much work to do on improving the gender pay gap as employers in other industries.

Aviation underpins jobs across the Australian economy

Australia’s tourism industry employs an estimated 666,000 people¹⁶ and higher education sector another 134,122¹⁷ and both are fundamentally dependent upon domestic and international aviation for access to customers. On the non-services side, primary producers of high-value perishables ranging from lobsters to dairy cannot access key markets without reliable air freight capacity.

While Australia’s economy benefits generally from its diversification, the second-round effects of a debilitated aviation sector can be expected to be concentrated on some regions more than others, such as Queensland, Tasmania and the Northern Territory where tourism is more heavily relied upon for jobs.

Figure 3: Tourism contribution to state and territory employment



Source: Tourism Research Australia¹⁸

2. Government support is required for the aviation sector

Key points

1. COVID-19 has seen countries around the world provide support for their aviation industries
2. Government support has been vital for the aviation industry's survival
3. The Australian Government's support for the aviation industry is modest by comparison

The COVID-19 economic downturn and associated travel-bans have caused existential challenges for the airline industry globally. Across the world, national governments have intervened, offering various forms of financial support to struggling airlines. This ranges from direct grants, like in the United States, to the full nationalisation of Air Italia in Italy.

The McKell Institute's mid-2020 report *Australian Aviation After COVID-19: the need for an Australian Aviation Plan* undertook detailed analysis of the extent of government support packages for the aviation industry announced as the COVID-19 pandemic unleashed.

That analysis is reproduced here, and a full update will be released with our final paper in early 2021.

Since that report, the Federal Budget (released in October 2020) stated that the total amount of Commonwealth assistance to the aviation sector was \$2.7 billion, via the Domestic Aviation Network Support and the Regional Airline Network Support programs.¹⁹

Many countries are offering support for their airline industries

A majority of countries assessed have extended liquidity to private airlines, typically offering lines of credit or a deferral of fees, taxes and charges associated with running an airline – or a combination of both. In most cases, support packages have been conditional, and in some cases, such as that of Singapore, have been included taking equity in the airlines themselves.

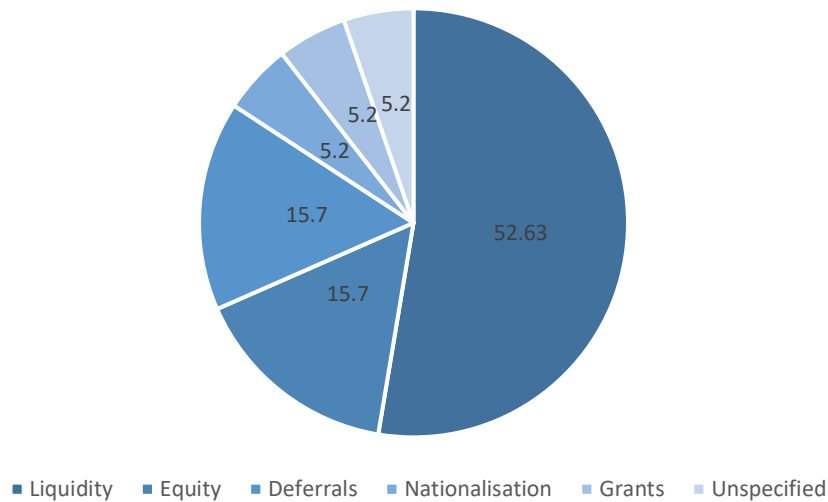
Middle Eastern countries, such as Qatar and the United Arab Emirates, whose Qatar Airways, Etihad Airways, and Emirates airlines are flagship carriers, have also announced unspecified commitments guaranteeing support for those carriers. These airlines are excluded from the following analysis due to the lack of detail.

The mean support offered by the analysed countries' is 0.24 per cent of GDP.

<i>Median Support as % of GDP</i>	<i>Mean Support as % GDP</i>	<i>Max Support as % of GDP</i>
0.11	0.24	1.74

Figure 4: Airline support package type of assistance

*Proposed and Announced Airline Support Packages by Type of Support
(Per Cent)*



Over half the international responses analysed are liquidity support in the form of loans. Deferrals of fees and charges, and equity stakes are the second most common approaches.

Further detail is available at Appendix 1 and in the McKell Institute's May 2020 report [*Australian Aviation After COVID-19: the need for an Australian Aviation Plan.*](#)

Australia's support for aviation is modest by international standards

Australia's annual Gross Domestic Product is around \$1,985,000 million.²⁰

With a total aviation support from the Commonwealth at \$2,700 million, this represents approximately 0.136% of Australia's GDP.

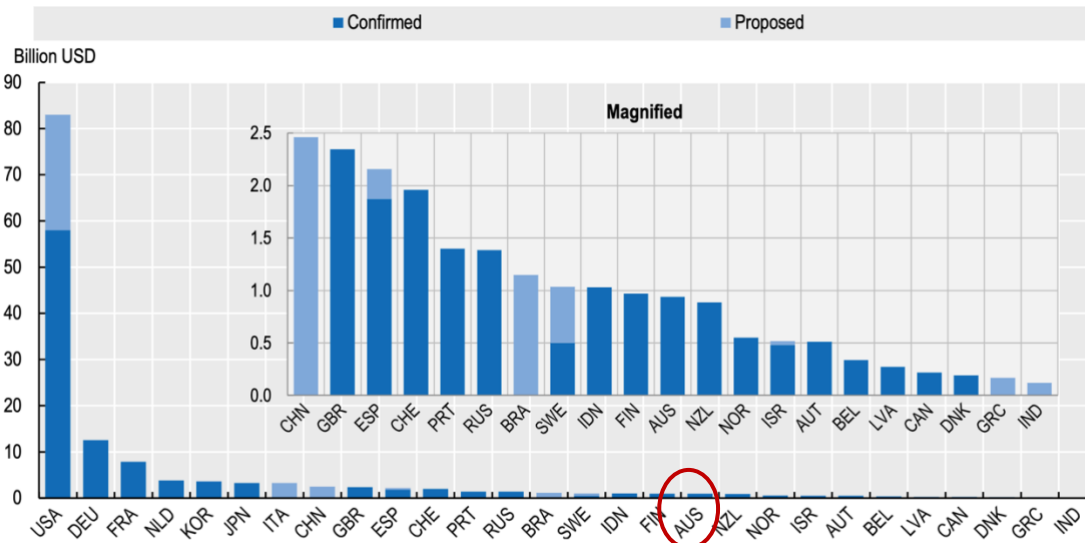
This compares a mean of 0.24% of GDP in support provided by countries analysed by the McKell Institute.

Other detailed investigations into government packages for aviation relief confirms this analysis.

According to the OECD, Australia's support for the aviation industry ranks 18th out of 28 countries analysed (see Figure 5)

Figure 5: extract from OECD's COVID-19 and the aviation industry: impact and policy responses

Monetary value of relief measures for airlines across economies, as of August 2020



Note: Proposed or confirmed, monetarily quantified relief measures for airlines provided by governments or government-backed entities across 57 countries as of August 20, 2020 in billion USD, Measures include: government-backed commercial loans and government guarantees; recapitalisation through state equity; flight subsidies, nationalisation; deferral and/or waiver of taxes and charges; grants; and private equity.

Australia's back of the pack status is also confirmed by analysis jointly undertaken by economists at the World Bank, the European Commission and the Economics Research Institute for ASEAN and East Asia.²¹

In their detailed analysis Abate et al (2020) demonstrate that 'most governments give a high priority to maintaining air transport connectivity in order to protect economic activity and jobs, in aviation itself and in related sectors such as tourism.'

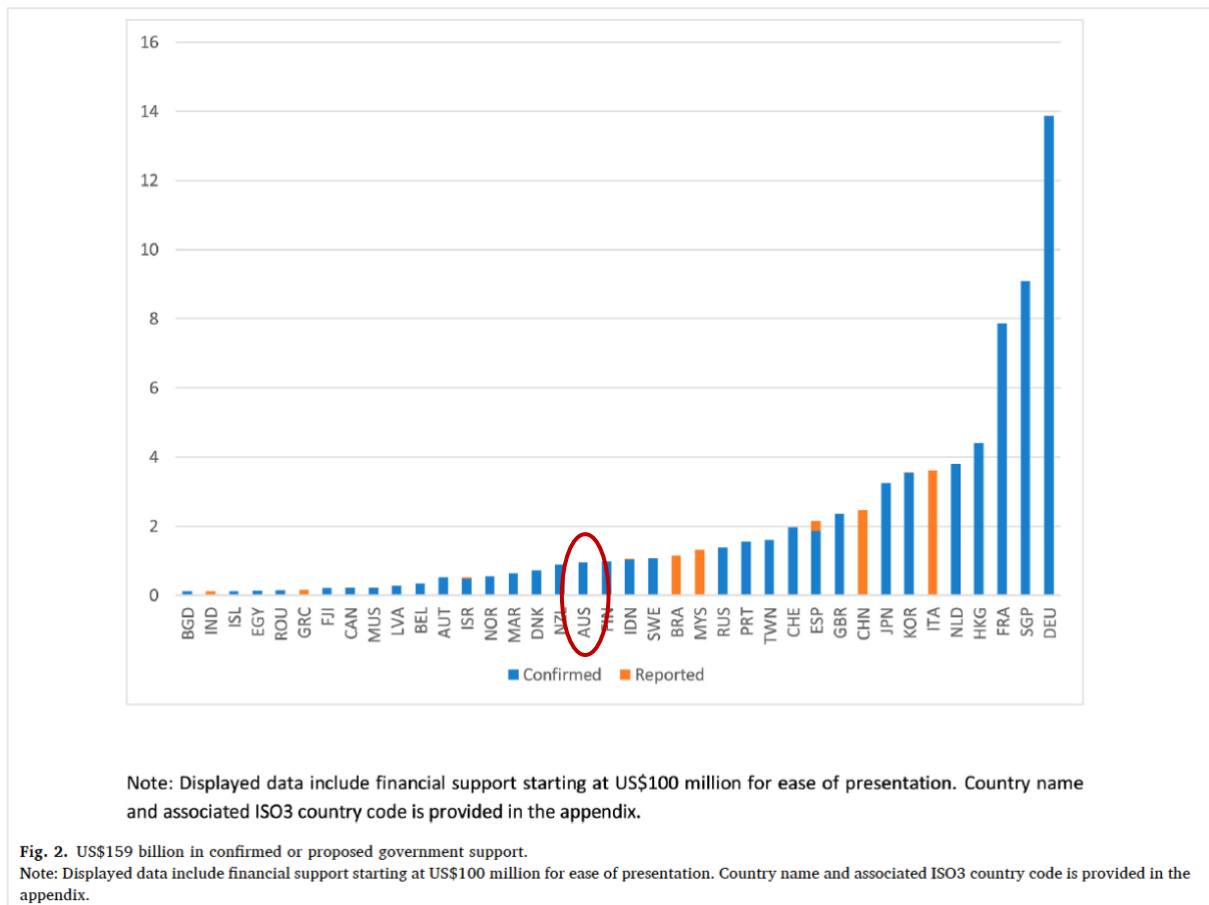
However, it is clear from the comparative analysis undertaken that the Australian Government's support compares poorly to that provided by the governments of other countries.

Based on the author's figures, the value of the Australian Government's assistance to the aviation industry was ranked 21st out of 38 countries analysed.

As the study authors note:

Even though the aviation sector is gradually becoming a more competitive and market-driven industry, the role of governments in promoting national interests through interventions in air transport at both national and international levels has not diminished. Aviation is seen by most governments as a strategic sector closely linked with economic development and as a result is directly or indirectly supported across several parts of its value chain.²²

Figure 6: Extract from 'Government support to airlines in the aftermath of the COVID-19 pandemic'



Source: Abate et al (2020)²³

The World Bank has undertaken further analysis of the size of support for the aviation industry compared to the overall size of the relevant governments' support by way of economic stimulus in the context of COVID-19.²⁴

Australia ranks poorly on this comparison, with only 0.33% of our stimulus package being spent on aviation, compared to 2.4% of the stimulus provided by the United State and New Zealand. Full details of the comparison are in Table 2.

Table 2: Aviation support as a percentage of COVID-19 stimulus, by country

Country	Aviation Share (%) in COVID-19 Stimulus
Latvia	39.5
Singapore	19.5
Kenya	13.9
Indonesia	6.6
Norway	6.5
Cape Verde	2.7
New Zealand	2.4
United States	2.4
Netherlands	2.3
South Korea	1.6
Egypt	1.0
Senegal	0.93
Spain	0.9
Malaysia	0.71
Morocco	0.48
Brazil	0.42
Australia	0.33
Ivory Coast	0.24
Nigeria	0.23
Burkina Faso	0.23
Germany	0.21
Canada	0.2
Austria	0.19
France	0.18
Japan	0.14
Bangladesh	0.14
Estonia	0.08
India	0.02

Source: Schlumberger, C. (2020)

3. – Australian communities rely on aviation

Key points

1. **Aviation is a lifeblood for many Australian communities**
2. **Regional areas that rely on aviation has seen big downturns in airline passenger traffic**
3. **JobKeeper has supported 376,000 workers to keep these communities afloat, however JobKeeper reductions will hurt workers and local businesses**
4. **The aviation industry needs support to get flying again to prevent further job losses in these regional communities**

Aviation is key part of Australia

Australia’s geography requires aviation to keep us connected.

Commercial aviation is inevitably drawn to largest centers of economic activity. Australia’s high level of urbanisation and wealth, as well as our geographic positioning as an island, means Australia as a whole is unlikely ever to be at risk of not having access to aviation.

Despite Australia’s relatively small population we are home to some of the busiest and most lucrative air routes in the world (see Table 3).

A sprawling land mass means the risk of underservicing, including misuse of market power, is all too present for remote and regional communities. Yet fair and accessible aviation services should be non-negotiable for all Australians to share in future opportunities and prosperity, and if we are to maintain our unity as a federation.

Australia must ensure that our aviation networks are structured in the interest of all Australians – in the cities and the regions - which means policy settings that recognize the inevitable bias towards large urban centers rather than attempt to ignore them, and respond with practical, cost effective solutions that keep Australia connected and together.

Table 3: Top 5 domestic passenger routes worldwide

Rank	Route	Passengers (2018)	Distance (km)
1	Seoul (GMP) - Jeju (CJU)	14,107,414	449
2	Sapporo (CTS) - Tokyo (HND)	9,698,639	819
3	Melbourne (MEL) - Sydney (SYD)	9,245,392	705
4	Tokyo (HND) - Fukuoka (FUK)	8,762,547	880
5	Mumbai (BOM) - Delhi (DEL)	7,392,155	1138

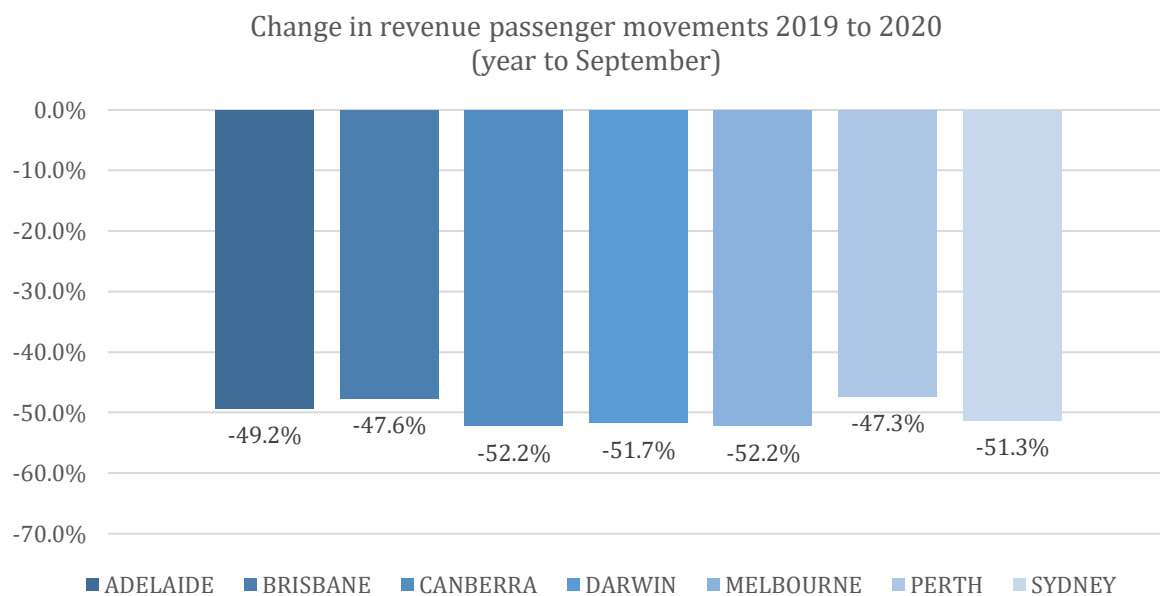
Source: Routesonline and Sabre Market Intelligence²⁵

Reductions in air traffic are widespread with some regional centres hit hard

Analysis of airport data over the course of 2020 reveals that capital city and regional airports have seen considerable declines in passenger movements.

The effects in capital city reductions in revenue passenger movements from the year from September 2019 to September 2020 ranged from minus 47 per cent in Perth and Brisbane, to minus 52% in Canberra and Melbourne (see Figure 7)

Figure 7: Change in revenue passenger movements 2019 to 2020

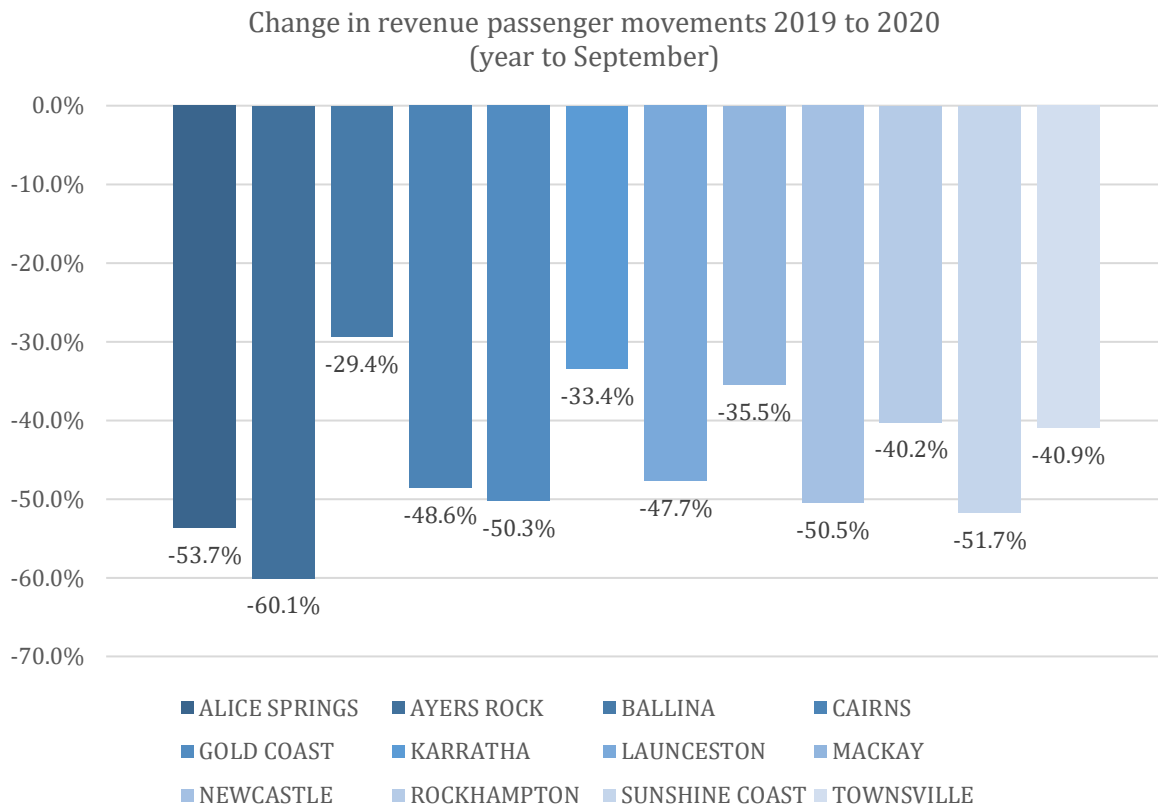


Source: Bureau of Infrastructure and Transport Research Economics

There are 12 non-capital city airports across Australian in the top 20 airports for passenger movement. As Figure 8 shows the declines in regional airports have been much more varied, from minus 29% in Karratha to minus 58% in Alice Springs.

Many of these regional communities rely on the aviation industry to bring tourists to local businesses that employ thousands of locals.

Figure 8: Change in revenue passenger movements 2019 to 2020 (year to September)



Source: Bureau of Infrastructure and Transport Research Economics

Job losses in aviation reliant communities

Communities with airports that accommodate significant air passenger movements have been significantly affected by job losses over the course of the pandemic.

In the 12 non-capital city airports across Australian in the top 20 airports for passenger movement, job losses have generally been worse than their overall state average.

As the charts in

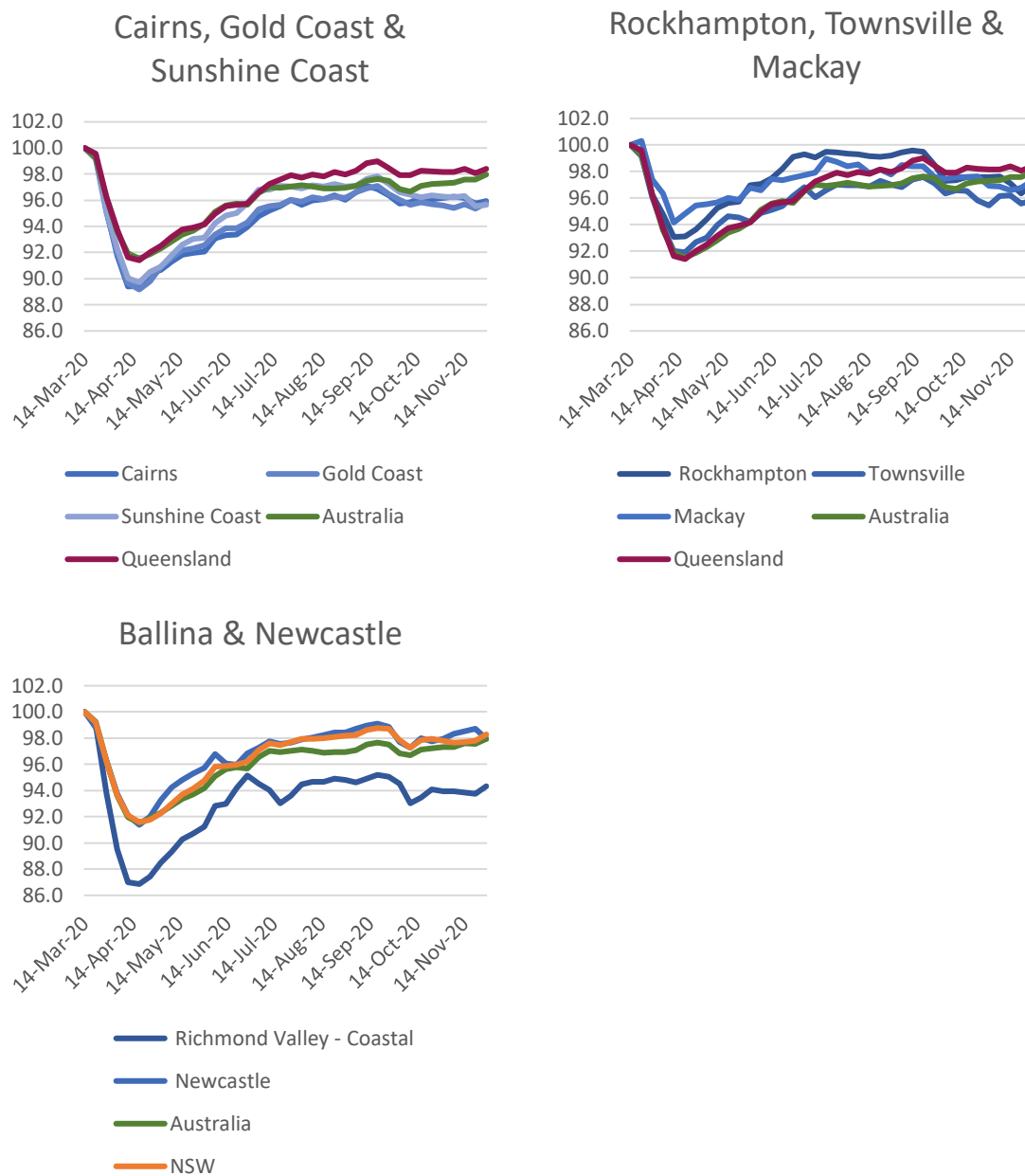
Figure 9 demonstrate, over the course of the pandemic in Queensland in the six communities with significant airports, all had greater job losses since March compared to the state average.

Cairns, the Gold Coast and Sunshine Coast all had payroll job numbers around two and a half points lower than Queensland overall.

While Rockhampton and Mackay preformed better than Queensland overall during the early part of the pandemic, by September 2020 their payroll jobs had fallen below the rate for Queensland and were now all behind job number across the state.

In NSW, the losses for Newcastle were on par with the overall state, however in the Ballina area, payroll jobs were around three and a half points lower than in the state overall.

Figure 9: Change in payroll jobs since COVID-19, selected communities



Source: ABS Weekly Payroll Jobs and Wages in Australia²⁶

Broader economic impact from minimum support for regional aviation

There are 91,694 business who filed for JobKeeper in these regional communities heavily reliant on aviation-driven tourism (as of August 2020 which is the latest data available).

This equates to around 375,900 local workers reliant on JobKeeper in the selected regional communities.

While some of these individual businesses may have since graduated from the JobKeeper program, the scale of the uptake in these communities demonstrates a reliance on the wage subsidy program in lieu of the economic activity driven by regional tourism.

Figure 10: JobKeeper applications in selected regional communities

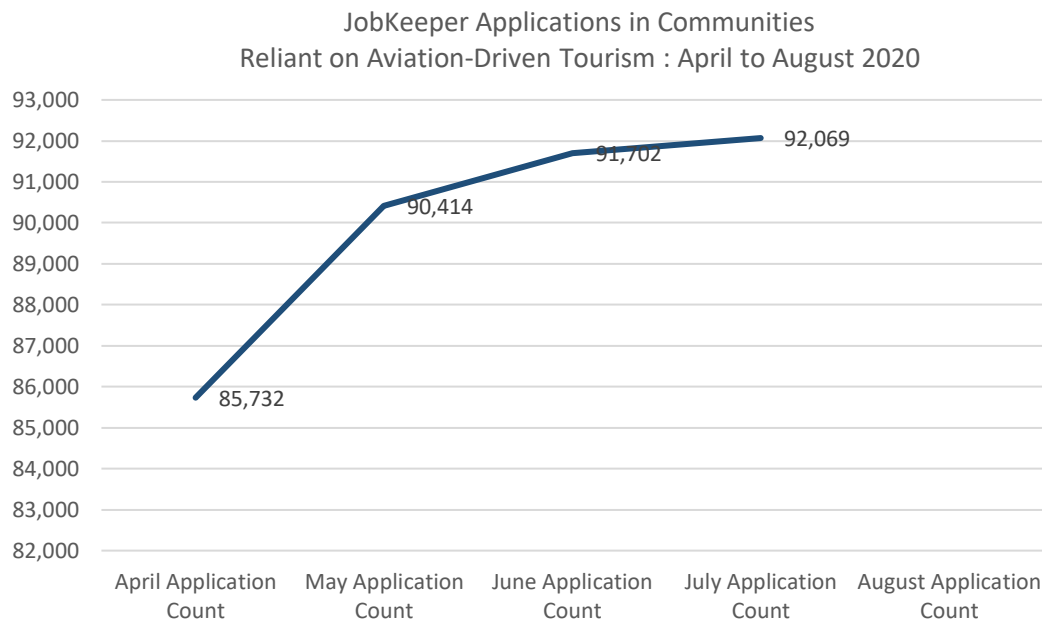


Table 4: JobKeeper applications and supported workers in selected regional areas

	Number of JobKeeper Applicants	Number of Workers Receiving JobKeeper
ALICE SPRINGS/AYRES ROCK	742	3041
BALLINA	9240	37,880
CAIRNS	5853	23,994
GOLD COAST	32,888	134,823
KARRATHA	213	873
LAUNCESTON	2451	10,047
MACKAY	2159	8850
NEWCASTLE	110,11	45,139
ROCKHAMPTON	2682	10,994
SUNSHINE COAST	19,386	79,472
TOWNSVILLE	5115	20,968
Total	91,740	376,081

Support in these communities is being withdrawn as JobKeeper reduces

JobKeeper was a lifeline for communities across Australia when it was introduced in March. Although some elements of the scheme design were severely deficient – namely its lack of application to companies owned by a sovereign entity, such as dnata, and the exclusion of recently hired casuals.

There are three phases to the JobKeeper program. Stage 1 was the initial application and run until 28 September. From 28 September until 31 December 2020, stage two saw payment rates reduced, and new thresholds apply. And a further set of reductions and changes will occur from 1 January 2021 until the program is due to end on 31 March 2021.

Table 5: Value of Fortnightly JobKeeper support to selected communities

Stage 1 - March - September	Stage 2 - September 28 to January 1	Stage 3 - January 1 to March 31
\$ 478,802,952.40	\$ 400,050,729.57	\$ 347,549,247.68

As JobKeeper reduces, economic support to these aviation reliant communities will also reduce.

Based on available data, we estimated that in the first iteration of JobKeeper, up to \$478.8 million in JobKeeper support was being distributed to these selected regional communities each fortnight. In the final iteration of January 1 – March 31, this will be reduced to approximately \$347.5 million.

As Table 6 shows, each of these regional communities will be receiving significantly less in JobKeeper support each fortnight.

However, until the aviation industry returns to higher levels of activity, these aviation dependant regional communities could be expected to continue to experience lower economic activity, which could put jobs at risk.

Table 6: Value of JobKeeper reductions in selected communities

FORTNIGHTLY RECEIPT OF JOBKEEPER			
	March-Sep 28	Sep-28 to Jan 1	Jan 1 to March 31
ALICE SPRINGS/AYRES ROCK	\$3,874,536	\$3,237,263	\$2,812,414
BALLINA	\$48,248,950	\$40,313,092	\$35,022,521
CAIRNS	\$30,562,890	\$25,535,988	\$22,184,720
GOLD COAST	\$171,732,645	\$143,486,688	\$124,655,917
KARRATHA	\$1,112,232	\$929,295	\$807,337
LAUNCESTON	\$12,798,504	\$10,693,440	\$9,290,064
MACKAY	\$11,273,753	\$9,419,477	\$8,183,292
NEWCASTLE	\$57,496,666	\$48,039,769	\$41,735,170
ROCKHAMPTON	\$14,004,727	\$11,701,267	\$10,655,627
SUNSHINE COAST	\$101,228,804	\$84,578,963	\$73,479,068
TOWNSVILLE	\$26,709,240	\$22,316,176	\$19,387,467
TOTAL	\$ 479,042,948	\$ 400,251,418	\$ 348,213,597

Appendix 1: Characteristics of International Support Packages

Key Points

1. International responses are typically revolved around providing liquidity to airlines.
2. Many details of international responses remain forthcoming.

Overview of government support packages for international airlines

As of April 28, 2020.

China

- The Chinese Government has offered an unspecified quantity of cash support to its domestic airline sector, aimed to alleviate cashflow pressure.
- The international package revolves the provision of cash support for every available seat kilometre of 0.016 yuan for routes with multiple carriers and 0.0528 yuan for routes that a serviced by only one carrier.²⁷

Singapore

- Singapore Airlines have received US\$3.52 billion in financial support from the Singapore Government in the form of an equity injection. A further \$6.8 billion worth of 'convertible notes', which are 'bonds that can be converted into equity stakes in the company'²⁸, have been distributed to the airline.
- Singapore Airlines have also secured a \$2.8 billion loan from a private lender.
- The various measures total US\$13.32 billion.

Canada

- The Canadian Government have 'promised' support for both Air Canada and WestJet²⁹.
- Both airlines are receiving wage subsidies as part of the Canadian Government's broader economic support package.
- There are reports that the airlines will receive an approximate CAD\$10 billion 'credit bridge' to provide liquidity during the crisis.

UK

- The United Kingdom have offered support for four airlines or airline groups: Easy Jet, British Airways, International Airlines Group, and Virgin Atlantic.
- The package is believed to include:
 - State backed credit
 - A deferral or freeze of the standard air traffic control charges
 - A ban on small customer refunds for a period of time

- Support with the costs of labour, utilising the UK's broader wage subsidy package.
- Though yet to be formally announced, there is an expectation that the airlines will receive around £7.5 billion, (US\$8.7 billion).

New Zealand

- The New Zealand Government have both provided liquidity to Air New Zealand, as well as providing broader support to the airline sector to maintain freight links.
- Air New Zealand has been provided NZ\$900m (US\$ 534) in loans,³⁰ while a further NZ\$600m has been provided to ensure freight connections remain open.³¹
- The package is equivalent to 0.4 per cent of New Zealand's GDP.

Finland

- The Finnish Government have offered a 600 million euro loan to Finnair, the flag-carrier. The airline is already majority state-owned.³²
- The loan guarantee is equivalent to 0.23 per cent of Finland's GDP.

Taiwan

- The Taiwanese Government has offered both subsidies and loans to its two major carriers – China Air and Eva Air.
- The package is worth US\$994 million, and also includes waiving all landing and parking fees.³³
- The package is equivalent of 0.16 per cent of Taiwan's GDP.

United States

- The US has offered a US\$32 billion support package to various airlines, which mainly consists of direct grants to keep airlines afloat.
- The package is the equivalent of 0.14 per cent of GDP, and is expected to be extended as the crisis continues.

Norway

- Norwegian Airlines has received support from the Norwegian Government in the form of a US\$537 million line of credit.
- The package is the equivalent of 0.09 per cent of Norway's GDP.

India

- The Indian Government, which has offered minimal economic support during the COVID-19 pandemic, has offered IndiGo and SpiceJet waivers and deferrals for fees and taxes levied on the airlines³⁴.
- The package is expected to cost around US\$1.6 billion, or 0.05 per cent of GDP.

South Korea

- South Korean airline Korean Air is lobbying for a US\$250m line of credit, however, as of April 22 2020, the South Korean Government is yet to formalise any direct support to the airline or the industry.³⁵

Sweden and Denmark (Scandinavian Airlines)

- The Governments of Sweden and Denmark are offering a combined total of US\$300 million in liquidity to keep Scandinavian Airlines afloat.³⁶
- The package is the equivalent of 0.03 per cent of the combined GDPs of Denmark and Sweden.

Hong Kong

- The Hong Kong Government have provided waivers and deferrals of fees to Cathay Pacific, worth a total of US\$453 million.
- The package is the equivalent of 0.03 per cent of Hong Kong's GDP.

Italy

- The Italian Government moved quickly to nationalise Alitalia, a flagship carrier that had been struggling prior to COVID-19. The nationalisation cost 500 million euros, or US\$543 million, equating to 0.02 per cent of Italy's GDP.

References

- ¹ Travel restrictions, border shutdowns by country. (2020). Retrieved 29 April 2020, from <https://www.aljazeera.com/news/2020/03/coronavirus-travel-restrictions-border-shutdowns-country-200318091505922.html>
- ² IATA Economics (2020). COVID-19 Airlines' Liquidity Crisis. Presentation, IATA.
- ³ IATA Economics (2020). Initial Impact* Assessment of the novel Coronavirus. Presentation, IATA.
- ⁴ Perce, B. (2020). COVID-19 Updated Impact Assessment. Presentation, IATA.
- ⁵ IATA Economics (2020). IATA Economics' Chart of the Week. Presentation, IATA.
- ⁶ Perce, B. (2020). COVID-19 Updated Impact Assessment. Presentation, IATA.
- ⁷ International Civil Aviation Organization (2020) *Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis*, 3 December 2020, at https://www.icao.int/sustainability/Documents/COVID-19/ICAO_Coronavirus_Econ_Impact.pdf
- ⁸ Bureau of Infrastructure and Transport Research Economics (2020), *Aviation statistics: International Aviation Activity*, at <https://www.bitre.gov.au/statistics/aviation/international> (retrieved 1 December 2020).
- ⁹ Commonwealth of Australia (2020), *Budget Paper No. 1 - Budget Strategy and Outlook 2020-21*, The Treasury, p. 2-6.
- ¹⁰ Aviation. (2020). Retrieved 11 May 2020, from <https://nationalindustryinsights.aisc.net.au/industries/transport/aviation>
- ¹¹ <https://www.afr.com/companies/transport/3000-jobs-to-go-as-virgin-charts-new-flight-path-20200804-p555ifm>
- ¹² <https://www.qantasnewsroom.com.au/media-releases/update-on-proposed-outsourcing-of-qantas-australian-airports-ground-handling-services/>
- ¹³ Air Transport Professionals includes: 8,000 aeroplane pilots; 1,700 Air Traffic Controllers; 870 Flying Instructors; 1,100 Helicopter Pilots; 1,200 Other
- ¹⁴ Weekly Full-Time Pay for Other Mobile Plant Operators of which Aircraft Baggage Handlers and Airline Ground Crews represent 44%
- ¹⁵ ABS: 6333.0 Characteristics of Employment, Australia, August 2019
- ¹⁶ ABS. (2020). *ABS Catalogue 5249.0 - Australian National Accounts: Tourism Satellite Account, 2018-19*.
- ¹⁷ Department of Education, Skills and Employment. (2020). *Higher education staff FTE for 2018*. Department of Education.
- ¹⁸ Tourism Research Australia. (2020). *State Tourism Satellite Account, 2017-18*. Austrade.
- ¹⁹ Commonwealth of Australia, Budget Strategy and Outlook: Budget Paper No. 1 2020-21, p 1-33.
- ²⁰ ABS, National Accounts: National Income Expenditure and Product, Table 35. <https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/latest-release>
- ²¹ Abate, M., Christidis, P., & Purwanto A.J. (2020) 'Government support to airlines in the aftermath of the COVID-19 pandemic' *Journal of Air Transport Management* 89 (2020) at <https://doi.org/10.1016/j.jairtraman.2020.101931>
- ²² Abate, M., *ibid*.
- ²³ Abate, M., *ibid*.
- ²⁴ Schlumberger, C. (2020) *Taking off during the COVID storm: Challenges in reopening international aviation in the Asia Pacific Region*, The World Bank, 27 August 2020.
- ²⁵ <https://www.routesonline.com/news/29/breaking-news/286313/busiest-routes-in-the-world-the-top-100/>
- ²⁶ ABS (2020) Weekly Payroll Jobs and Wages in Australia - Payroll Jobs Indexes by Statistical Area Level 4 (SA4) and Statistical Area Level 3 (SA3), at 16 December 2020, at <https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/weekly-payroll-jobs-and-wages-australia/latest-release>
- ²⁷ China rolls out cash support to domestic, foreign airlines amid coronavirus outbreak. (2020). Retrieved 30 April 2020, from <https://www.reuters.com/article/us-health-coronavirus-china-aviation/china-rolls-out-cash-support-to-domestic-foreign-airlines-amid-coronavirus-outbreak-idUSKBN20R117>
- ²⁸ Singapore Airlines gets \$13bn lifeline as airlines beg for help. (2020). Retrieved 30 April 2020, from <https://www.aljazeera.com/ajimpact/singapore-airlines-13bn-lifeline-airlines-beg-200327052053429.html>
- ²⁹ George-Cosh, D. (2020). Morneau eyes credit 'bridge' for Air Canada, WestJet after energy aid - BNN Bloomberg. Retrieved 30 April 2020, from <https://www.bnnbloomberg.ca/morneau-eyes-credit-bridge-for-air-canada-westjet-after-energy-aid-1.1423192>
- ³⁰ Baird, L. (2020). Air New Zealand bailed out. Retrieved 30 April 2020, from <https://www.afr.com/companies/transport/air-new-zealand-bailed-out-20200320-p54c37>
- ³¹ Government support for the aviation sector | Ministry of Transport. (2020). Retrieved 30 April 2020, from <https://www.transport.govt.nz/air/government-support-for-the-aviation-sector/>
- ³² Kaminski-Morrow, D. (2020). Finnish government agrees to guarantee €600m loan to Finnair. Retrieved 30 April 2020, from <https://www.flightglobal.com/airlines/finnish-government-agrees-to-guarantee-600m-loan-to-finnair/137430.article>
- ³³ Chua, A. (2020). Taiwan extends financial lifeline to its airlines. Retrieved 30 April 2020, from <https://www.flightglobal.com/airlines/taiwan-extends-financial-lifeline-to-its-airlines/137359.article>

³⁴ India mulls up to \$1.6 billion rescue plan for aviation sector after coronavirus. (2020). Retrieved 30 April 2020, from <https://economictimes.indiatimes.com/industry/transportation/airlines/-aviation/india-mulls-up-to-1-6-billion-rescue-plan-for-aviation-sector-after-coronavirus/articleshow/74702715.cms?from=mdr>

³⁵ Ash, L. (2020). Korean Airlines Seeking Bailout As Airlines Cut Costs - Simple Flying. Retrieved 30 April 2020, from <https://simpleflying.com/korean-airlines-bailout/>

³⁶ Nickel, D. (2020). Denmark, Sweden Governments Offer SAS \$302 Million Backing Over Coronavirus Crisis. Retrieved 30 April 2020, from <https://www.forbes.com/sites/davidnikel/2020/03/18/denmark-sweden-governments-offer-financial-support-to-sas-over-coronavirus-crisis/>