5 March 2021 Report to Essential Services Commission

# Understanding emerging and evolving consumer vulnerability in the coronavirus economy

Final report



# About ACIL Allen

ACIL Allen is a leading independent economics, policy and strategy advisory firm, dedicated to helping clients solve complex issues.

Our purpose is to help clients make informed decisions about complex economic and public policy issues.

Our vision is to be Australia's most trusted economics, policy and strategy advisory firm. We are committed and passionate about providing rigorous independent advice that contributes to a better world.

#### Suggested citation for this report

Understanding emerging and evolving consumer vulnerability in the coronavirus economy, ACIL Allen, March 2021 © ACIL Allen 2021

# Contents

#### i. **Executive summary** 1 1 Introduction 1.1 Defining vulnerability 1 1.2 Approach 3 Key impacts of COVID-19 2 4 2.1 4 Essential service monitoring data 2.2 7 Macroeconomic impacts 2.3 Family incidents 13 2.4 Stimulus supports 14 2.5 Household impacts 17 3 Emerging trends and risks 20 4 Long term vulnerability 27 4.1 Vulnerability measurement tool 27 4.2 Resilience index development 27 5 Conclusions 29 **Appendices** 30 Decision rules for tabular 'heat maps' A-1 А В Resilience measures and indicators B-1 С References C-6 C-6 C.1 Data sources

C.2 Literature review C-6

# Figures

Figure 1.1 Figure 1.2	Potentially vulnerable circumstances Factors influencing the motivation, ability and opportunity for households to r	2 nanage
	DIIIS	Z
Figure 2.1	Electricity – Tailored assistance for bills (LHS) and average arrears (RHS)	5
Figure 2.2	Gas – Tailored assistance for bills (LHS) and average arrears (RHS)	5
Figure 2.3	Water – Number of Utility Relief Grants and Hardship grants per week	6
Figure 2.4	Number of cases handled by EWOV – by sector	7
Figure 2.5	Number of cases handled by EWOV – by type of issue	7
Figure 2.6	Summary of macroeconomic measures in Victoria	8
Figure 2.7	Youth unemployment and unemployment rate by sex in Victoria, seasonally	adjusted
•		9
Figure 2.8	Underemployment rate by sex in Victoria, seasonally adjusted	10

# Contents

Figure 2.9	Employment to population (e/p) ratio in Victoria	10
Figure 2.10	Payroll jobs index by age and sex since March 2020 in Victoria	11
Figure 2.11	Payroll job index by industry in Victoria, 2020	12
Figure 2.12	Share of employment by sex, age, and employee type	12
Figure 2.13	Affected Family members by age and gender Change from March to June 201	9 to
-	March to June 2020	13
Figure 2.14	Number of recipients of Newstart / Jobseeker and Youth allowance, Australia	15
Figure 2.15	Victorian Jobseeker and Youth allowance recipients by gender, Victoria	16
Figure 2.16	Percentage change in specialist homelessness supports provided based on va	rious
-	reasons, Nov 2019 to 2020	17
Figure 2.17	Emotional and mental wellbeing	18
Figure 2.18	Personal stressors experienced due to COVID-19	18
Figure 2.19	Proportion of respondents who stated they were financially stressed, Australia	19
Figure 2.20	Proportion of respondents who stated they felt depressed or anxious most of the	ne time
•		19
Figure 4.1	Example spatial mapping of a resilience index	28
•		
Tables		
Table 2.1	Factors or hazards recorded on I17 forms	14
Table 3.1	Impacts of pandemics on vulnerable groups	21
Table 4.1	Domains and indicators	27
Table A.1	Heat map decision rules	A-1
Table B.1	Resilience indicator domains, indicators, and rationale	B-1

Table B.1 Resilience indicator domains, indicators, and rationale

# Executive summary

The Essential Services Commission (the Commission) is embarking on a one-year project (2020-21) to develop a whole-of-organisation consumer vulnerability strategy. This project examines the emerging world of consumer vulnerability amid a global pandemic and uncertain economic environment to set a pathway for the Commission across its regulatory functions.

The Commission engaged ACIL Allen to analyse data to inform the development of the vulnerability strategy, and specifically understand where systemic factors are impacting on consumers in the current environment. The work is intended to enable the Commission to monitor the conditions of vulnerability and support policy development into the future.

# Approach

The data available across government and other sources are varied in scope and frequency of collection, so a two-stage process to data analysis has been taken. This includes examination of:

- data that are reported frequently (e.g. monthly) throughout 2020 to understand how Victorians have been exposed to vulnerable conditions through the COVID-19 pandemic
- data reported less frequently (e.g. yearly) but are more geographically specific (e.g. by local government area) to understand geographic and long-term indicators of vulnerability.

Combining these two approaches provides a view of both situational and long-term vulnerability, with an aim of assisting the Commission to understand how vulnerability has manifested in COVID-19, as well as which cohorts may continue to be subject to vulnerable conditions into the future as a result of COVID-19 or other circumstances.

Specifically, the data that are reported less frequently have been used to establish a tool to calculate a 'resilience' index by location, which reflect compounded aspects of vulnerability, and can be refined according to the drivers of vulnerability relevant at a point in time. It is intended that the Commission will be able to use this tool to support its policy development.

# **Findings**

The data indicate that COVID-19 has had a significant economic, mental and emotional impact on people. The ongoing uncertainty and government response to contain the pandemic has created the potential for many more people to become vulnerable, with many individuals losing income and jobs as 2020 progressed. In particular, many of the data point to the second half of 2020 being associated with more job losses and emotional effects (such as mental health issues and substance use).

Within this context, customers in the Commission's regulated sectors received more supports in 2020 than in 2019, but in general the number of customers receiving tailored assistance that could not contribute to ongoing usage decreased over the year. Despite this, the average level of arrears

i

for these customers increased over the year, suggesting that these cohorts were harder hit than others.

Some of the key economic factors indicated through the data are as follows:

- Underemployment increased substantially at the beginning of the pandemic, and has decreased over time, while unemployment has continued to increase - particularly for women and youth.
- Many of the most affected industries have been those that employ women, young people and part-time workers, resulting in increased vulnerability among people who have historically had less stable incomes.
- Payments of Jobseeker and Youth Allowance have spiked throughout 2020, although more-so for men than women. This may be due to women being less likely to qualify as 'permanent' employees. It may also reflect an increased role childcare as children are forced to stay home from school.

Police and homelessness support data provide some insights into how people have managed the stress of the pandemic. Some key findings are below.

- There has been a significant increase in family incidents attended by police across all age groups. These incidents were more likely to be associated with depression or mental health issues than in previous years, and less likely to be associated with alcohol or drug usage (possibly due to decreased capacity to report issues in close quarters to perpetrators).
- Information from homelessness support services indicate that drugs and alcohol usage have increased substantially for supported cohorts – particularly in the second half of the year – along with mental health and other medical issues.
- The second half of the year has also seen an increase in family and relationship breakdowns for those accessing homelessness supports, as well as recent or imminent separation being key factors for family incidents.
- Unemployment and other employment issues have also resulted in an increased demand for homelessness supports throughout the year.

Ongoing surveys from the Australian Bureau of Statistics and the Melbourne Institute have provided further insight into the experience of COVID-19 across the general population. Key findings include:

- high degrees of financial stress particularly younger working aged cohorts although the level of financial stress has decreased over the course of the year, possibly due to access to government supports
- younger working cohorts reporting experiences of depression and anxiety over the year, with rates increasing for males in particular
- concerns about maintaining a healthy lifestyle (a possible outcome of restriction of movement policies) and managing health concerns
- around 20 per cent of Australians suffering from loneliness through the year.

Although data were not typically available in a systematic manner, the quantitative evidence base for other drivers of vulnerability identified through the Consumer Policy Research Centre's vulnerability framework have also been considered. This evidence indicates that COVID-19 has had nuanced impacts on how each of these factors drive vulnerability. This will help to inform the Commission's further work to monitor people experiencing vulnerable circumstances into the future.

# **Next steps**

This report provides a quantitative basis for considering how vulnerability has manifested through COVID-19. The data in this report will assist in the development of the Commission's vulnerability strategy, as well as to monitor cohorts that are more susceptible to becoming vulnerable due to COVID-19 or other drivers. The Commission will be able to use the 'resilience' tool that has been developed on an ongoing basis to understand the movement in vulnerability indicators on a geographic basis, to inform policy development.

iii



The Essential Services Commission (the Commission) is developing a whole-of-organisation consumer vulnerability strategy. The vulnerability strategy will be informed by:

- qualitative and quantitative research to capture the varied experiences of different consumers and emerging data trends
- an internal and external engagement program (including deliberative engagement with Victorian consumers)
- capability building activities to model and reflect the Commission's values and expectations.<sup>1</sup>

The strategy will form a contemporary definition of consumer vulnerability and identify measurable and achievable outcomes across the Commission's functions.

This will set a pathway forward for the Commission to take a consistent and coordinated long-term approach to supporting the interests of consumers experiencing vulnerability.<sup>2</sup>

The Commission has engaged ACIL Allen to analyse data to inform the development of the consumer vulnerability strategy, and understand where systemic factors are impacting on consumers in the current environment.

The analysis seeks to understand how consumers are affected by systemic factors. While there are many sources of data that examine vulnerable cohorts, these data are infrequently examined in combination. Analysis of relevant factors, including data from the Commission's regulated sectors with data from the government and community sectors, will help to understand consumer vulnerability from a systems viewpoint, and provide insights into the consumer experience. It is intended that this will in turn help the Commission to better understand how consumers are experiencing their regulated sectors and identify existing and emerging risks to consumers.

# 1.1 Defining vulnerability

There are many factors that contribute to consumers being vulnerable to poor outcomes. Some vulnerable circumstances are transient and people will move through with the right support, while other circumstances necessitate longer term assistance.<sup>3</sup> The Consumer Policy Research Centre (CPRC) has identified a range of potentially vulnerable circumstances, which are summarised in Figure 1.1.

<sup>&</sup>lt;sup>1</sup> Essential Services Commission, Building a strategy to address consumer vulnerability, Approach paper, 17 September 2020, page 4

<sup>&</sup>lt;sup>2</sup> ibid

<sup>&</sup>lt;sup>3</sup> Consumer Policy Research Centre, Exploring regulatory approaches to consumer vulnerability – a report for the Australian Energy Regulator, February 2020, page 7



Figure 1.1 Potentially vulnerable circumstances



ACIL Allen recently developed a strategic framework for Energy Consumers Australia to support Australian households manage their energy bills (the Supporting Households Framework). While the framework was developed from the perspective of households managing energy bills, it is also applicable to households managing bills in other sectors that are regulated by the Commission.

The Supporting Households Framework segmented households based on three dimensions:

- 1. Motivation the household's motivation to take action to manage their energy bill.
- 2. Ability the household's ability to take action to manage their energy bills.
- 3. Opportunity the opportunity for a household to take action to manage their energy bill.

The factors that are used to assess the motivation, ability and opportunity of households to manage their energy bills provide an indication as to whether a household is more or less vulnerable to poor outcomes. The factors are summarised in Figure 1.2.

Figure 1.2 Factors influencing the motivation, ability and opportunity for households to manage bills



Source: ACIL Allen Consulting, Supporting households to manage their energy bills: A strategic framework, 19 November 2018, page v

These frameworks provide a basis for considering the types of data that may be examined to understand consumer vulnerability. The key datasets and analysis approach are described below.

# 1.2 Approach

The project has considered a wide range of data relevant to consumer vulnerability. These include data relevant to each of the CPRC domains, as well as economic data, demographic data, and service information.

The data available are varied in scope and frequency of collection, so a two-stage process to data analysis has been taken. This includes examination of:

- data that are reported frequently (e.g. monthly) throughout 2020 to understand how vulnerable cohorts in Victoria have been affected through the COVID-19 pandemic
- data reported less frequently (e.g. yearly) but are more geographically specific (e.g. by local government area) to understand geographic and long-term vulnerability.

Combining these two approaches is intended to provide a view of both situational and long-term vulnerability, with an aim of assisting the Commission to understand how vulnerability has manifested in COVID-19, as well as which cohorts may continue to be vulnerable to into the future, as a result of COVID-19 or other circumstances. Specifically, the data that are reported less frequently have been used to establish a tool to calculate a 'resilience' index by location, which reflect compounded aspects of vulnerability, and can be refined according to the drivers of vulnerability relevant at a point in time.

Chapter 2 provides analysis of the frequently reported datasets – many of which have commenced collection in 2020 in response to the COVID-19 pandemic. The chapter examines data collected by the Commission, macroeconomic impacts, impacts on industry, stimulus supports, homelessness supports, and family violence data, data collected through the ABS household impacts survey and the Melbourne Institute survey, and impacts measured through businesses regulated by the commission.<sup>4</sup>

Chapter 3 summarises the availability of quantitative evidence of the impacts of the pandemic on vulnerability as defined by the CPRC. This summary is used to define the factors that are considered to be more or less relevant to vulnerability in relation to COVID-19 for the individuals supplied with services that are subject to regulation by the Commission.

Finally, Chapter 4 demonstrates how data describing longer-term vulnerability may be used to measure customer vulnerability across Victoria to inform policy decisions by the Commission.

<sup>&</sup>lt;sup>4</sup> Note that this will be included on receipt of data on electricity business measures from the commission

# Key impacts of COVID-19

This chapter examines key datasets which have been collected regarding the Victorian impacts of the COVID-19 pandemic. These datasets are from a range of sources, but have been combined where possible to provide a system view of the impacts of the pandemic across different cohorts.

The chapter includes several table-based 'heat maps', which categorise the impact measured using 'green', 'amber', or 'red' ratings. The thresholds used to define the rating categories are based on professional judgement, with 'green' ratings typically set at a pre-pandemic level. 'Amber' and 'Red' categories are generally set to help distinguish the significance of pandemic impacts, with 'Red' categories more significant than 'Amber' categories. The levels used are provided in Appendix A.

The data presented in this chapter are referenced in Chapter 3 to identify emerging trends and key risk indicators across vulnerable population groups.

# 2.1 Essential service monitoring data

The Commission collects a range of data to monitor customers that are experiencing vulnerability or enduring hardship across each of its regulated areas. These data typically include access to supports, and number of disconnections. Key data by regulated area are shown below.

#### 2.1.1 Electricity

Figure 2.1 shows access to tailored assistance and the amounts in arrears for these customers. The number of customers receiving tailored assistance fell from a total of around 56,000 in early April 2020 to 49,000 in July, before increasing again to close to 54,000 by November. Through this change, the proportion of customers who were able to pay for their ongoing usage (while also paying back amounts in arrears) increased from 61 per cent to 68 per cent.

The amount in arrears increased for customers receiving tailored assistance – by around 11 per cent for customers who could pay for ongoing usage, and 17 per cent for those that could not, suggesting that, although there are fewer customers receiving tailored assistance, customers that did require assistance were in a worse position.

Although not presented in the chart, there was also a number of customers who deferred payments, from June onwards. In June and July the number of customers was around 8,500-9,000, with each deferring an average of around \$620. The number of customers and amounts deferred decreased rapidly throughout the remainder of 2020, reaching 3,264 customers and an average of \$449 deferred by November. This suggests that, as with access to tailored assistance, the level of support required by consumers decreased as 2020 progressed.

2



**Figure 2.1** Electricity – Tailored assistance for bills (LHS) and average arrears (RHS)

#### 2.1.2 Gas

The trends in financial support among gas customers were similar to those for electricity customers. The number of customers receiving assistance and could not pay for ongoing usage decreased slowly but consistently over the year. Meanwhile, the number of customers receiving assistance but who could pay their current bill increased substantially from May through to October (up by 65 per cent), in line with when larger than expected bills may have been received for winter usage.

Interestingly, similar trends to electricity were also observed in the amount that payments were in arrears. Amounts for customers who could pay for ongoing usage increased by around 10 per cent over the year (despite the large increase in customers accessing assistance). Meanwhile, the amount for customers who could not pay their current bill climbed steadily throughout the year for a total increase of 22 per cent from April to November.



**Figure 2.2** Gas – Tailored assistance for bills (LHS) and average arrears (RHS)

Again, payment deferrals were also recorded, with the highest rates of deferral and amounts deferred in June/July, but a rapid drop-off in both as the year progressed.

: 5

#### 2.1.3 Water

Figure 2.3 shows the number of applications by water customers for Utility Relief Grants (URGs), which are administered by the Department of Health and Human Services, as well as hardship grants awarded to regional and metropolitan customers, by week.

In line with the indicators for electricity and gas customers, the number of hardship grants for water customers has decreased or remained reasonably consistent over the year, with the number of grants remaining around the same as in April among regional businesses, and halving for metropolitan businesses. It should be noted that on a yearly basis (using data available prior to the weekly series) hardship grants increased by 33 per cent year on year in 2019-20.<sup>5</sup> Nevertheless, changes in lockdowns and economic conditions throughout the year do not appear to have a strong impact on these grants.

In contrast, URG applications have varied substantially throughout the year, peaking in the middle of the second lockdown. Although the drivers are unclear, the increased applications for these grants may be due to higher levels of awareness through government advertising, compared to business-based hardship programs. Again, there was a large annual increase in support provided to water customers, with the number of URGs approved in 2019-20 being twice that of 2018-19.



Figure 2.3 Water – Number of Utility Relief Grants and Hardship grants per week

Data on restrictions on residential water use show that the number of restrictions decreased slowly but consistently over 2020, with no increases from week to week. This is due to each of the water business temporarily pausing new water supply restrictions in light of the pandemic.

#### 2.1.4 Energy and Water Ombudsman cases

Cases handled by the Energy and Water Ombudsman of Victoria (EWOV) broadly reflect the incidence of restrictions placed on the Victorian community. As shown in Figure 2.4 the electricity sector accounted for the bulk of cases handled by EWOV. Although the share of cases in each sector varied over the year there was no clear trend in these shares over time.

<sup>&</sup>lt;sup>5</sup> https://www.esc.vic.gov.au/sites/default/files/documents/2019-20-water-performance-report-20201119.pdf



Figure 2.4 Number of cases handled by EWOV – by sector

Figure 2.5 shows EWOV cases by type of issue. Cases related to tariffs, credit and connections decreased throughout the year (potentially due to policy and support programs offered by utilities businesses). However, there was a substantial increase in the number of billing cases in the second have of the year, in line with the implementation of the second lockdown. This coincided with a slight increase in 'billing error' cases, which may suggest that people paid more attention to the bills they received, or that they believed they could not have used the amount of energy or water measured.



Figure 2.5 Number of cases handled by EWOV – by type of issue

# 2.2 Macroeconomic impacts

Key macroeconomic measures include unemployment, underemployment, participation (employment to population) and payroll jobs indices (which measures employment using Single Touch Payroll Data). Figure 2.6 below provides a summary of these measures in Victoria for specific cohorts, with analysis in subsequent sections.<sup>6</sup>

report

<sup>&</sup>lt;sup>6</sup> Appendix A provides the thresholds used to determine the green, amber, and red ratings in this and subsequent tables.

#### Figure 2.6 Summary of macroeconomic measures in Victoria

Measure	2019	March	April	May	June	July	August	September	October	November
Unemployment rate; General	4.9	5.2	6.0	6.9	7.5	6.8	7.1	6.7	7.4	7.1
Unemployment rate; Males	4.8	4.8	6.2	7.1	7.2	6.4	6.6	6.0	6.1	6.2
Unemployment rate; Females	5.0	5.6	5.8	6.7	7.7	7.2	7.8	7.6	8.8	8.3
Unemployment rate; Youth 15-24	10.9	12.4	14.9	14.1	16.4	15.8	16.2	14.6	18.1	17.4
Underemployment rate; General	8.0	8.2	14.0	14.1	12.8	12.9	14.1	14.3	12.6	10.8
Underemployment rate; Males	6.5	6.8	13.0	14.1	12.2	11.9	13.5	15.1	12.2	9.2
Underemployment rate; Females	9.7	10.2	16.1	16.3	13.5	14.1	14.0	14.6	13.8	12.2
Employment to population ratio; General	63.3	63.0	60.6	59.3	59.8	60.1	59.3	58.7	60.1	61.5
Employment to population ratio; Males	68.1	68.0	65.8	64.3	65.0	65.4	64.7	64.2	66.4	67.0
Employment to population ratio; Females	58.7	58.1	55.6	54.4	54.7	55.1	54.1	53.4	54.1	56.1
Payroll jobs index; Males 20 - 29	n/a	94.2	87.9	89.7	91.2	91.2	89.4	89.8	91.8	93.9
Payroll jobs index; Males 50 - 59	n/a	98.0	96.4	96.7	95.5	97.8	96.5	96.6	95.9	96.0
Payroll jobs index; Females 20 - 29	n/a	92.5	84.3	87.2	90.8	90.1	87.6	88.4	91.9	95.6
Payroll jobs index; Females 50 - 59	n/a	97.4	94.5	95.6	96.8	97.2	95.5	96.0	96.5	96.9

Source (1): Australian Bureau of Statistics, Labour force, Australia 2020

Source (2): Australian Bureau of Statistics, Weekly payroll jobs and wages in Australia

#### 2.2.1 Unemployment

As illustrated in Figure 2.6 unemployment in Victoria generally peaked in June 2020, rising 2.6 percentage points above the pre-pandemic level, from 4.9 per cent in 2019 to 7.5 per cent in June 2020. The level has since decreased slightly, but remains at elevated levels – 7.1 per cent in November 2020.

The unemployment rate for males rose 2.4 percentage points above the pre-pandemic level, from 4.8 per cent in 2019 to 7.2 per cent in June 2020. The unemployment rate subsequently decreased more than the general unemployment rate – to 6.0 per cent in September 2020, increasing slightly to 6.2 per cent in November 2020.

Females, however, have experienced a larger and more prolonged increase in unemployment, with the rate continuing to increase throughout the year, peaking at 8.8 per cent in October 2020, 3.8 percentage points above the pre-pandemic level of 5.0 per cent in 2019.

Similarly, youth unemployment, which is generally higher than adult unemployment, has remained at elevated levels which have increased throughout the year. The youth unemployment rate has increased 7.2 percentage points above pre-pandemic levels, from 10.9 per cent in 2019 to 18.1 per cent in October 2020.

Figure 2.7 shows the monthly unemployment rates of males, females and young people aged 15 – 24 on a longer time scale. While unemployment has been on a downward trend for many years, the unemployment rates increased with the commencement of the pandemic – particularly for women and youths.

8



Figure 2.7 Youth unemployment and unemployment rate by sex in Victoria, seasonally adjusted

#### 2.2.2 Underemployment

Figure 2.6 shows that underemployment has fluctuated since the commencement of the pandemic, generally peaking earlier than the peak unemployment rate. The general underemployment rate increased 7.1 percentage points from a pre-pandemic level of 8.0 per cent in 2019 to 15.1 per cent in May 2020. The underemployment rate decreased in June to August before increasing to 14.9 per cent in September 2020. It has subsequently decreased to 10.6 per cent in November.

The increase in the underemployment rate for males was slightly lower and peaked slightly earlier than the general underemployment rate. It increased by 6.0 percentage points from a pre-pandemic level of 6.0 per cent to 12.6 per cent in April 2020. It has been declining since, to 8.0 per cent in November 2020.

The trend in the underemployment rate for females has been similar to the general underemployment rate. It increased 6.6 percentage points from a pre-pandemic level of 9.7 per cent in 2019 to 16.3 per cent in May 2020. After decreasing in June to August, it increased to 14.6 per cent in September 2020, and has been decreasing since.

Figure 2.8 below again shows the data on a longer time scale. In contrast to unemployment, the onset of the COVID-19 pandemic in March resulted in a rapid increase in underemployment rates across both genders, rather than the gradual increase observed in unemployment. This indicates that the initial vulnerability impacts on people may have been through partial loss of work, rather than loss of employment. Over time many of the individuals who have had reduced hours may then have lost their jobs.



Figure 2.8 Underemployment rate by sex in Victoria, seasonally adjusted

#### 2.2.3 Participation

The employment to population ratio is used as a measure for economic participation or employment availability. It measures the number of workers currently employed against the total working age population in Victoria.

Figure 2.9 indicates that the participation rate decreased substantially in April 2020, during the first COVID-19 lockdown, and remained low with a second dip in September 2020. Lower participation rates indicate that individuals have foregone looking for employment, which is consistent with the shutdown of many businesses, particularly during the lockdown periods.

Participation rates have increased in October and November, suggesting that individuals are becoming more optimistic about work opportunities and re-entering the workforce.



Figure 2.9 Employment to population (e/p) ratio in Victoria

#### 2.2.4 Payroll job index

Payroll job index data, which measures the number of jobs in near real-time using single-touch payroll systems, shows that young people and women have been more heavily impacted by COVID-19 compared with other groups in terms of job losses.

To compare changes in the payroll job index over time, the week Australia recorded its  $100^{th}$  confirmed case of COVID-19 (during the week ending 14 March 2020) is used as the reference period for the Australian Bureau of Statistics (ABS) to construct the indices.<sup>7</sup> Figure 2.10 below shows changes in the payroll jobs index of males and females across young (20 – 29) and older (50 – 59) age brackets. The figure indicates that payroll jobs index was impacted more for the younger cohort than the older cohort, and more for women in the first round of restrictions (April to June) than the second (August to October).





#### 2.2.5 Payroll jobs index by industry

A plausible explanation for the outcomes described above is that many female-dominated industries (industries with a large share of employed females) have been impacted the most by the pandemic.<sup>8</sup>

Figure 2.11 below shows the change in payroll jobs indices by industry during 2020. Some of the largest impacts observed were in industries with relatively high shares of females. These include accommodation and food services (55 per cent share of female employment); arts and recreation (53 per cent); education and training (69 per cent); and rental, hiring and real estate (56 per cent). Other sectors, such as Information Media and Telecommunications, in which men represent a large proportion of those employed, have also been severely affected.

https://mckellinstitute.org.au/research/articles/the-impact-of-covid-19-on-women-and-work-in-victoria/

<sup>&</sup>lt;sup>7</sup> Australian Bureau of Statistics, Weekly Payroll Jobs and Wages in Australia, week ending 2 May 2020, cat. no. 6160.0.55.001.

<sup>&</sup>lt;sup>8</sup> Impact of COVID-19 on Women and Work in Victoria, accessed at:

## Figure 2.11 Payroll job index by industry in Victoria, 2020

Measure	March	April	May	June	July	August	September	October	November	December
Agriculture, Forestry and Fishing	100.0	94.5	93.6	94.2	94.1	94.4	96.7	96.4	99.4	100.3
Mining	100.0	98.0	96.8	99.5	100.9	100.9	102.0	99.7	99.0	98.9
Manufacturing	100.0	96.3	97.0	97.6	97.7	98.1	98.1	97.4	98.7	97.0
Electricity, Gas, Water and Waste Services	100.0	100.4	102.4	102.2	103.6	104.1	102.6	97.6	96.1	100.5
Construction	100.0	96.6	97.5	98.4	100.9	100.4	100.1	98.9	99.1	96.2
Wholesale Trade	100.0	95.7	96.3	96.8	97.9	97.2	96.6	96.0	98.4	99.5
Retail Trade	100.0	92.5	95.2	97.6	98.6	96.1	95.7	96.3	101.8	104.0
Accommodation and Food Services	100.0	71.6	77.3	84.7	84.1	76.5	79.7	81.5	89.9	95.2
Transport, Postal and Warehousing	100.0	96.9	96.8	94.8	95.2	96.5	96.0	94.9	96.3	96.3
Information Media and Telecommunications	100.0	93.6	90.5	95.6	96.7	94.7	90.8	88.8	88.1	87.5
Financial and Insurance Services	100.0	99.2	99.9	100.2	101.3	101.5	101.9	102.0	102.9	104.2
Rental, Hiring and Real Estate Services	100.0	92.7	93.3	94.2	95.5	95.8	96.0	94.9	96.0	99.3
Professional, Scientific and Technical Services	100.0	97.2	97.5	97.6	98.7	99.2	99.0	97.5	98.3	98.6
Administrative and Support Services	100.0	89.6	91.3	96.4	95.7	93.5	92.3	94.4	98.9	98.5
Public Administration and Safety	100.0	92.2	93.0	100.0	100.6	100.4	98.9	99.2	102.4	102.0
Education and Training	100.0	92.7	92.5	94.5	89.9	90.4	91.0	91.4	94.4	91.2
Health Care and Social Assistance	100.0	97.3	97.8	100.8	103.1	101.7	102.0	102.7	102.5	102.6
Arts and Recreation Services	100.0	79.4	83.0	85.5	87.0	85.1	85.2	85.2	91.6	98.8
Other Services	100.0	90.7	92.1	96.7	96.9	94.0	93.8	93.9	97.4	97.5

Note: Payroll index is estimated by the ABS by week. Values here are monthly averages, and re-based to March. Source: Australian Bureau of Statistics, Weekly payroll jobs and wages in Australia

Figure 2.12 shows the impact on industries alongside some key metrics associated with vulnerability. Each industry has been classified according to whether there was a decrease in employment for the majority of the year (High impact), some of the year (Medium) or only short parts of the year (Low).

The industries classified with COVID-19 having a High impact are predominantly industries with high proportions of women, young people, and part-time workers. This reinforces that the economic impacts of COVID-19 are most likely to be felt by those who are younger, female and in part-time or casualised work.

Interestingly, there is less variability in the proportion of older workers (aged 50+) across industries.

Figure 2.12	Share of employment by sex, age, and employee type
-------------	--

Industry	Impact on jobs	Females	Age 20-29	Age 50+	Part-time
Agriculture, Forestry and Fishing	High	35.8	11.5	32.1	25.9
Accommodation and Food Services	High	54.6	33.2	23.2	60.5
Information Media and Telecommunications	High	30.9	24.9	28.3	21.8
Rental, Hiring and Real Estate Services	High	48.4	21.8	22.6	22.9
Administrative and Support Services	High	44.4	23.1	21.2	35.4
Education and Training	High	69.2	18.8	26.9	37.1
Arts and Recreation Services	High	52.6	27.3	20.4	45.7
Other Services	High	49.2	23.7	11.0	34.9
Wholesale Trade	Medium	33.4	20.7	32.9	15.6
Retail Trade	Medium	55.9	29.9	21.8	53.2
Transport, Postal and Warehousing	Medium	22.7	17.3	21.4	24.1
Mining	Low	13.9	14.7	22.8	7.1
Manufacturing	Low	31.1	18.1	20.4	16.9
Electricity, Gas, Water and Waste Services	Low	21.8	15.3	22.1	10.3
Construction	Low	11.2	24.5	31.0	13.5
Financial and Insurance Services	Low	51.2	16.6	27.4	15.1
Professional, Scientific and Technical Services	Low	41.9	21.3	28.3	20.4
Public Administration and Safety	Low	46.2	14.9	18.1	21.6
Health Care and Social Assistance	Low	78.3	20.4	24.5	47.0
Source: Australian bureau of statistics, Labour force,	Australia, detailed				

# 2.3 Family incidents

Family violence data throughout 2020 is difficult to interpret, due to the fact that there were concerns throughout the year that victims of family violence were unable to contact appropriate agencies with the perpetrator more consistently being at home. Police data on family incidents provides some evidence based on where police were called to assist.

Data from the Law Enforcement Assistance Program (LEAP) database indicate that the number of incidents requiring a police presence increased by approximately 11 per cent from March-June 2019 to March-June 2020.

Figure 2.13 below shows that the number of family incidents affecting both young and older individuals increased substantially between 2019 and 2020. The increase in incidents was lowest for young females (20 to 24 years), and highest among females aged 60 to 64. In general, the increase in incidents for men was higher than for women.



#### Figure 2.13 Affected Family members by age and gender Change from March to June 2019 to March to June 2020

Source: Law Enforcement Assistance Program data accessed via https://www.crimestatistics.vic.gov.au/family-violence-data-portal/family-violence-data-dashboard/victoria-police

Table 2.1 below outlines the factors recorded on the Risk Assessment and Risk Management Reports (L17 forms) completed by police at family incidents. Data are available by financial year, so 2019-20 (which includes the first lockdown period) has been compared to the average of the previous four years.

This shows that, for both the affected and other family members, fewer incidents were recorded involving alcohol and drugs, but there was a substantial increase in those involving depression or mental health.

Fewer incidents involved family members with a history of violence, indicating an increase in first time offences, and there was a substantial increase in incidents involving people who were unemployed or truant from school. Incidents also more commonly reported were related to an increase or escalation in violence. Financial difficulties and recent or imminent separation were other key factors recorded for family incidents.

It should be noted that some of the changes described above may be driven by increased awareness of violent or unacceptable behaviours, and cannot be attributed directly to COVID-19. They nevertheless signal that there has been an increased awareness or incidence of poor mental health and unemployment contributing to family violence in Victoria over the 2019-20 financial year.

Note: At time of writing, data are only available up to June 2020

Table 2.1	Factors or	hazards	recorded	on 117	forms
-----------	------------	---------	----------	--------	-------

Issue or hazard	2015-16 to 2018-19	2019-20	Difference
Affected family members <sup>1</sup>			
Alcohol use possible or definite	16%	10%	-6%
Drug use possible or definite	14%	6%	-8%
Depression / mental health issue	16%	23%	7%
Other party <sup>2</sup>			
Alcohol use possible or definite	29%	22%	-7%
Drug use possible or definite	30%	19%	-11%
Depression / mental health issue	23%	37%	13%
History of violence	18%	11%	-7%
Unemployed or truant from school	14%	32%	17%
Other factors			
Escalation or increase in severity or frequency of violence	19%	41%	23%
Financial difficulties	11%	23%	12%
Pregnancy/new birth	5%	5%	0%
Presence of disability	3%	4%	1%
Separation recent or imminent	16%	31%	15%

Notes: <sup>1</sup>The individual who is deemed to be affected by events occurring during the family incident

<sup>2</sup>The other individual involved in a family incident. This could be a current partner, former partner or a family member.

Source: Victoria Police data summary on L17 forms <a href="https://www.crimestatistics.vic.gov.au/family-violence-data-portal/family-violence-data-dashboard/victoria-police">https://www.crimestatistics.vic.gov.au/family-violence-data-portal/family-violence-data-dashboard/victoria-police</a>

The decrease in incidents involving alcohol and drugs within the above data is an interesting trend, given the evidence from elsewhere that suggests that lockdown has increased alcohol-related family violence.<sup>9</sup> Although not clear from the data, it is possible that drinking and drug related family issues have been more frequently addressed through other support channels than police, and or that family violence connected to drugs or alcohol is less likely to be reported due to the perpetrators consistently being in close quarters during lockdown.

Overall, the data on family violence are consistent with the global trend of an overall increase in family violence disclosures during the COVID-19 lockdowns.<sup>10</sup>

# 2.4 Stimulus supports

#### 2.4.1 Jobseeker payments

Jobseeker payments (previously Newstart allowance) is the main income support for people aged 22 through to pension age who are in the labour market and are looking for work<sup>11</sup>. While the Jobseeker payment represents a relatively small share of total social security and welfare spending, it can be a source of major fiscal pressure during a crisis like COVID-19.

<sup>&</sup>lt;sup>9</sup> https://movendi.ngo/wp-content/uploads/2020/06/FARE-Family-violence-and-alcohol-during-COVID-19\_final.pdf

<sup>&</sup>lt;sup>10</sup> Family violence rates have increased during the coronavirus pandemic: How can general practice respond? Accessed at: https://nwmphn.org.au/news/family-violence-rates-increased-coronavirus-lockdowncan-general-practice-respond/

<sup>&</sup>lt;sup>11</sup> The Jobseeker payment replaced the Newstart Allowance from March 2020 onwards.

Figure 2.14 below shows that, Australia-wide, these payments almost doubled in 2020 compared to 2019 levels, although the number of recipients had decreased by 11 per cent from peak levels by November 2020. In addition to the increased number of people supported by Jobseeker, the Coronavirus supplement provided an effective increase to the rate of Jobseeker, although eligibility criteria and the amount have been adjusted since - creating concern about a return to the standard \$550 a fortnight Newstart Allowance rate, which many groups have indicated is insufficient.<sup>12</sup>





Source: Law Enforcement Assistance Program data accessed via https://www.crimestatistics.vic.gov.au/family-violence-data-portal/familyviolence-data-dashboard/victoria-police

Jobseeker and Youth Allowance payment receipts in Victoria surged rapidly from approximately 193,600 receipts in March 2020 to a peak of approximately 413,300 in August. The number of recipients in Victoria has since remained just under the August peak<sup>13</sup>.

Since March 2020, Jobseeker and Youth Allowance receipts increased across both genders, although slightly more for males than females. It is unclear why this is, although it may be due to fewer females meeting the eligibility criteria of being 'permanent' employees. Another plausible explanation is that females have left the labour force altogether, substituting from work and/or leisure time to home school children forced to stay at home due to COVID-19.14

<sup>12</sup> 

https://www.vinnies.org.au/page/Publications/National/Factsheets\_and\_policy\_briefings/Briefing\_Raising\_the \_Rate\_of\_Newstart/

<sup>&</sup>lt;sup>13</sup> Department of Social Services, Jobseeker Payment and Youth Allowance receipts – monthly profile

<sup>&</sup>lt;sup>14</sup> Borland, J 2020, Female and male employment during recessions in Australia: then and now. Labour market snapshot #1



Figure 2.15 Victorian Jobseeker and Youth allowance recipients by gender, Victoria

Source: Department of social services via data.gov.au < https://data.gov.au/data/dataset/jobseeker-payment-and-youth-allowance-recipients-monthly-profile>

Jobseeker and Youth Allowance payments also increased more significantly for younger cohorts than older cohorts, with payments increasing by 230 per cent from December 2019 to July 2020. In contrast, payments increased by around 78 per cent for older cohorts. This is likely to be due to the more significant impact of COVID-19 on industries employing young people.

#### 2.4.2 Specialist homelessness supports

The Australian Institute of Health and Welfare's Specialist Homelessness Services Collection provides information on the reason for providing supports to people who are homeless or at risk of homelessness.

Figure 2.16 below shows how the reasons for seeking homelessness support services in each month compared to 2019 on average. In aggregate, the number of supports did not change substantially between 2019 and 2020, so the percentage increases in the figure indicate an increased share of supports attributable to each of these issues. The data provide an insight into the changing drivers for people accessing homelessness supports, which is an indicator of vulnerability.

Measure	March	April	May	June	July	August	September
Financial difficulties	7.4	9.4	7.8	5.2	2.2	-0.6	2.2
Employment difficulties	29.8	43.7	32.8	18.0	13.4	12.8	18.2
Unemployment	6.5	19.8	23.6	23.9	23.8	26.0	29.3
Time out from family/other situation	-0.1	4.6	8.9	8.3	11.9	15.7	16.8
Relationship/family breakdown	-0.7	2.3	3.8	5.7	8.1	8.1	9.5
Family and domestic violence	2.9	-1.2	-0.3	2.1	0.7	-0.2	2.1
Mental health issues	1.7	0.5	4.4	6.2	9.4	8.7	9.8
Medical issues	3.7	1.1	7.3	8.0	6.9	5.3	7.5
Problematic drug or substance use	-0.8	6.3	14.1	17.2	20.4	20.4	24.7
Problematic alcohol use	-11.5	-1.7	3.9	6.1	4.0	4.2	9.2
Indigenous clients	6.2	4.2	4.5	6.3	7.6	8.0	12.5
20–24 years	1.8	-0.7	-2.8	-0.3	-0.5	0.4	4.1
25–29 years	4.5	2.2	2.1	5.5	6.0	6.1	10.9
50–54 years	7.9	7.7	7.6	10.9	10.5	6.0	12.5
55–59 years	12.2	4.8	2.0	6.7	7.5	6.6	12.0

Figure 2.16 Percentage change in specialist homelessness supports provided based on various reasons, Nov 2019 to 2020

Note: A baseline of November 2019 was used.

Source: Australian Institute of Health and Welfare, Specialist homelessness services collection (SHSC)

Financial and employment drivers were a significant feature of homelessness supports in 2020. Financial difficulties were stated more frequently as a reason for seeking homelessness support during the beginning of the pandemic, but have since declined as a reason. Employment difficulties increased significantly as a reason for seeking homelessness supports in the first half of the period, while unemployment increased as a driver in the second half. This is consistent with the macroeconomic data indicating that the initial impacts were primarily a reduction in hours and income, while job losses increased in the second half of the year.

People have also sought homelessness supports for personal issues in the second half of the year, with increased supports for individuals needing time out from family, or dealing with relationship breakdowns. One possible explanation is the continued restrictions on movement applied to people in Victoria. Mental health issues and medical issues increased in the second half of the year, which may also be partly attributable to extended lockdowns. It is possible that increased levels of drug and alcohol could be related to this also.

While family and domestic violence as a reason for seeking homelessness supports increased by only a small amount in 2020, but it was one of the largest reasons for seeking supports (42 per cent of clients).

In terms of cohorts, increased homelessness supports were provided to Indigenous clients, particularly in the second half of the year. People aged 20-24 did not appear to require substantially more support, however, there was increased demand among people aged 25-29 and over 50.

# 2.5 Household impacts

Another valuable source of information to understand the impacts of COVID-19 on households is the ABS household impacts survey, which the ABS has run from April 2020 to provide insights into the prevalence and nature of impacts from COVID-19 on households. The survey initially ran fortnightly, and then monthly from September 2020.

Figure 2.17 below shows the estimates of emotional and mental wellbeing of respondents at four points throughout the year. The figures indicate the proportion of people that feel as the items indicate at least some of the time. Although the data are quite volatile from month to month, over 40 per cent of respondents indicated they had felt nervous, restless or fidgety, or that everything was an effort in August, with similar results in April. There was also an increase in the second half of the

year in the proportion indicating that they felt so depressed that nothing could cheer them up, and those feeling worthless. Each of these factors indicate that there were many in the general population struggling with mental health challenges over the year.

Across cohorts, the highest proportions of people indicating mental health issues were among young people and women, while people 65 or over reported low emotional and mental wellbeing much less often (around 15 percentage points below the average).

Figure 2.17	Emotional an	nd mental wellbeing
-------------	--------------	---------------------

Measure	17-Apr	29-Jun	August	November
Feeling nervous in the last 4 weeks	35.3	24.8	45.6	29.6
Feeling holpless in the last 4 weeks	11.3	8.0	23.6	15.3
Feeling Restless or fidgety in the last 4 weeks	41.8	25.2	41.1	24.3
Feeling that everything was an effort in the last 4 weeks	26.1	19.0	40.6	25.8
Feeling so depressed that nothing could cheer you up in the last 4 weeks	7.4	6.6	16.8	20.4
Feeling worthless in the last 4 weeks	6.6	6.0	15.9	11.4
Note: The data displayed is nationwide. There is a limited monthly time series in	Victoria for this	s question.		

Note: The data displayed is nationwide. There is a limited monthly time series in Victoria for this ques Source: Australian Bureau of Statistics, Household impacts of COVID-19 survey

The survey also examined personal stressors experienced due to COVID-19. These are shown in Figure 2.18 below. Key stressors reported over the year related to:

- financial stress particularly early in the year
- maintenance of a healthy lifestyle possibly due to restrictions imposed on movement and fitness and sporting facilities
- managing health concerns likely due to concerns about access to health facilities
- loneliness a likely side effect social distancing and stay at home orders.

Interestingly, people were not likely to be as stressed about getting a job – possibly because of the availability of government supports and limited ability to control conditions that limit their ability to work.

Figure 2.18 Personal stressors experienced due to COVID-19

Response option	29-Apr	29-Jun	October
Not able to get a job	3.9	4.0	6.5
Difficulty in paying rent or fear of eviction	3.1	3.7	3.0
Difficulty paying mortgage for their home or an investment property	4.2	1.4	4.2
Other financial stress	9.5	7.8	6.6
Problems maintaining a healthy lifestyle	18.9	7.9	15.7
Problems managing health concerns	9.7	4.6	11.2
Relationship difficulties	6.7	2.7	8.9
Suffering loneliness	21.9	9.1	18.6
Problems with smoking	1.4	1.7	3.5

Note: The data displayed is nationwide. There is a limited monthly time series in Victoria for this question. Source: Australian Bureau of Statistics, Household impacts of COVID-19 survey

#### 2.5.1 Melbourne Institute survey – Taking the pulse of the nation

Another source of insight into household stressors is the Melbourne Institute 'Taking the pulse of the nation' survey, which is a national survey that is conducted fortnightly to measure Australians' expectations and attitudes towards the COVID-19 pandemic. Publicly available data is available on a national basis only.

Figure 2.19 below shows the proportion of respondents to the survey who stated they were financially stressed. Younger respondents were more likely than older respondents to be financially stressed throughout the pandemic, but the proportion has gradually decreased over the year.



Figure 2.19 Proportion of respondents who stated they were financially stressed, Australia

Figure 2.20 shows the proportion of respondents who felt depressed or anxious 'most of the time'. Again, there is a clear difference between younger and older respondents, although the difference does not appear to have changed much over the year. For young males there is even a slight upward trend in the rate of respondents reporting they felt depressed or anxious, suggesting this group is experiencing more emotional and psychological distress as the pandemic continues.



Figure 2.20 Proportion of respondents who stated they felt depressed or anxious most of the time



This chapter examines the quantitative evidence around emerging trends and key risk indicators across vulnerable population groups. The summary in this chapter draws on the data examined in the previous chapter, and publicly available research, to emphasise where there is evidence that COVID-19 is having a situational impact on areas of vulnerability in specific ways.

As described in the next chapter, ACIL Allen has used this information to construct a resilience index which will assist the Commission by helping to define and identify customers that may be subject to vulnerability as circumstances related to COVID-19 change (as well as in relation to non COVID-19 drivers).

The evidence here is structured around the key drivers of vulnerability described by the CPRC, which are:

- 1. Health and disability health conditions that affect the ability to carry out every-day tasks
- 2. Capacity low knowledge of financial matters or in managing money
- 3. Life events major life events such as bereavement or relationship breakdown
- 4. Capability extent of cultural diversity, literacy and digital inclusion.

Evidence is also summarised around demographic and economic drivers of vulnerability, noting that these aspects may help to identify customers that are vulnerable to a range of specific circumstances.

 Table 3.1
 Impacts of pandemics on vulnerable groups

Domain	Key drivers	Measured impact
Health and disability		
Disability	According to a survey administered by People with Disability Australia, people with disability have reported that they are facing challenges in their health and wellbeing, economic security, access to essential services and digital inclusion in light of the pandemic. <sup>15</sup>	Based on a survey of 204 respondents (88 per cent with disability, 12 per cent carers/families): 91 per cent reported increased expenses
	The Disability Support Pension (DSP) is inadequate in supporting people with disability during this crisis. Many people with disability stated that they have received less support during the pandemic, or they had different kinds of supports. This included people who had National Disability Insurance	41 per cent had less NDIS support and 47 per cent had less non-NDIS disability support.
Family violence	Scheme (NDIS) plans. Research indicates that the COVID-19 pandemic has increased women's vulnerability to family and domestic violence. With more people confined to their homes, there is a greater risk and frequency of violence against women and children due to increased social isolation and financial difficulties. <sup>16</sup> Isolating at home is risky given that unemployment, income loss, increased use of drugs and declining mental wellbeing are known drivers of violence against women.	Refer to Section 2.3.
Chronic disease	A global survey shows that people with chronic health conditions are disproportionally affected by the COVID-19 pandemic because of restricted ability to access medication and health and social services. <sup>17</sup> Disruption to medications or supports can exacerbate illness or recovery or increase risk of exposure or illness. Pandemics also occupy a large portion of medical resources, so a lack of medical supply significantly increases the risk to people with chronic diseases.	There was a 10 per cent drop in visits to General Practitioners (GPs) for the management of chronic disease in March 2020 compared to March 2019. <sup>18</sup> This is particularly concerning for mature-age people, who are more likely to have underlying and chronic health conditions that could be
	In Australia, the public health response to COVID-19 has impacted access to health services. Many health services have been reduced (e.g. elective surgery) or moved to telehealth to comply with social distancing requirements.	exacerbated by a delay in seeking treatment. <sup>19</sup>

<sup>&</sup>lt;sup>15</sup> People with Disability Australia (2020): Experiences of People with Disability During COVID-19: Survey results

<sup>&</sup>lt;sup>16</sup> Pfitzner, N., Fitz-Gibbon, K., True., J. (2020) Responding to the 'Shadow Pandemic'. Practitioner views on the nature of and responses to violence against women in Victoria, Australia during the COVID-19 restrictions

<sup>&</sup>lt;sup>17</sup> Chudasama, V., Gilles, C., Zaccardi, F., Coles, B., Davies, M., Seidu., S and Khunti, K. Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals

<sup>&</sup>lt;sup>18</sup> People stop seeing GPs for chronic illnesses: new MBS data reveal nearly 100,000 fewer visits (2020, May 20). Heart Foundation

<sup>&</sup>lt;sup>19</sup> Brotherhood of St Laurence and Nous Group (2020). Hidden in plain sight; The impact of the COVID-19 response on mature-age, low-income people in Australia

Domain	Key drivers	Measured impact
Mental illness	People with pre-existing mental health disorders are at risk of experiencing significantly higher psychiatric symptoms, anxiety symptoms and depressive symptoms during the COVID-19 pandemic compared to those without pre-existing mental health conditions. <sup>20</sup> As indicated by the data in Chapter 2, public health measures, such as social distancing, travel bans and self-isolation magnifies the stress faced by people with mental illness during pandemics.	Among 130 countries across WHO's six regions, over 60% reported disruptions to mental health services for vulnerable people, including children and adolescents and older adults <sup>21</sup> .
Socially isolated	Analysis from Relationships Australia shows that prior to COVID-19, people aged 55 to 64 were the most likely to report social isolation. <sup>22</sup> COVID-19 restrictions are likely to have made this worse as many organised activities (clubs, pubs, sporting teams) became unavailable, as did some informal support networks. Emerging evidence shows that the physical distancing requirements in response to the COVID-19 pandemic have increased loneliness and social isolation <sup>23</sup> as people have been forced to work from home and forgo social interaction.	An ABS survey of 1000 adults found that 28 per cent of women and 16 per cent of men reported feeling lonely as result of the pandemic, while a survey of 1000 young people by UNICEF Australia found that 24 per cent felt isolated and did not know where to turn to for support.
	A representative survey of Australians found that living alone did not have a statistically significant effect on the mental health scores of its participants. <sup>24</sup> This indicates that there may not have a strong effect on those who were already spending a large amount of time alone.	
Capacity		
Financial stress	People who are experiencing financial stress are less able to handle unexpected expenses and financial shocks, and are more likely to be affected by the pandemic as unemployment rises.	Refer to Section 2.5.
Low-household income	Research into previous pandemics has shown that during a pandemic, low-income households and those with low or unstable or job security may have limited financial resources or savings which can lead to increase their risk of exposure to a virus if they are unable to work remotely. <sup>25</sup> COVID-19 is already having a greater financial impact on people who faced insecure work and low incomes.	Refer to Chapter 2.
	Some low-income earners are receiving income support payments, including JobSeeker and the Coronavirus supplement of \$550 per fortnight. However, this supplement was reduced on 24 September 2020 to \$250 per fortnight, and to \$150 per fortnight from the 4 January 2021.	

<sup>&</sup>lt;sup>20</sup> Neelam, K., Duddu, V., Anyim, N., Neelam, J., and Lewis, S. Pandemics and pre-existing mental illness: A systematic review and meta-analysis

<sup>&</sup>lt;sup>21</sup> COVID-19 disrupting mental health services in most countries, WHO survey. World Health Organisation.

<sup>&</sup>lt;sup>22</sup> Relationships Australia. (2018). Is Australia experiencing and epidemic of loneliness? Findings from 16 waves of the Household Income and Labour Dynamics of Australia Survey.

<sup>&</sup>lt;sup>23</sup> Smith B. J. and Lim, M. H (2020). How the COVID-19 pandemic is focusing attention on loneliness and social isolation.

<sup>&</sup>lt;sup>24</sup> Dawel, A. et al. (2020). The Effect of COVID-19 on Mental Health and Wellbeing in a Representative Sample of Australian Adults

<sup>&</sup>lt;sup>25</sup> O'Sullivan, T. and Bourgoin, M. (2010). Vulnerability in an influenza pandemic: Looking beyond medical risk.

Domain	Key drivers	Measured impact
Support payments	Income support measures were introduced in Australia by the Morrison Government in March 2020, including JobKeeper and Jobseeker. These support measures were essential features of the policy interventions for COVID-19.	Refer to Section 2.4
	However, Government assistance did not reach all population groups. For example, temporary visa holders, including international students, are not eligible for Jobseeker payments. As such, temporary visa holders can be very vulnerable to unemployment.	
Underemployment	Many people have experienced reduced outcomes due to COVID-19, including those working fewer hours and facing underemployment. In Victoria, the underemployment rate has increased from 8.4 per cent in March to 15.1 per cent in May – the largest underemployment rate that Victoria has ever experienced historically. <sup>26</sup>	Refer to Section 2.2.2.
Rental status	According to a survey conducted by the Australian Housing and Urban Research Institute (AHURI), people who are renting are deeply impacted by pandemics due to increased financial hardship, stress, mental health or anxiety compared to homeowners. <sup>27</sup> The majority of renters were negatively financially impacted by the pandemic, with many relying on savings and superannuation – and government	63 per cent of rental households experienced changes to employment or income due to the COVID-19 pandemic. Low- income rental households generally faced higher rates of reduced working hours, temporary job loss or reduction to overall income.
	support packages. <sup>28</sup> It is likely that when these supports end in 2021, renters will have further depleted their savings.	44 per cent of young renters aged between 18 – 24 are not able to pay rent in time due to the pandemic.
Household debt	Australia's household debt has increased rapidly over the past thirty years, with a ratio of household debt to annual disposable income of approximately 190 per cent in June 2019. Heavily indebted	One in seven of those who had a large drop in income had asked for a pause on rent or mortgage payments.
	households are likely to be vulnerable to pandemics and have less capacity to manage unexpected expenses if savings and/or incomes are low. <sup>29</sup>	The number of Australians unable to pay their mortgage or rent on time jumped from 6.9 per cent to 15.1 per cent.
	Research shows that a majority of those who have attempted to renegotiate or freeze mortgage or rental payments have been successful. <sup>30</sup> However, when the provisions to freeze these mortgages expire some may struggle to pay the mortgage that has accrued unless financial circumstances improve.	

<sup>29</sup> CoreLogic (2020). Could household debt levels be a trigger for another round of credit tightening?

<sup>&</sup>lt;sup>26</sup> Australian Bureau of Statistics, Labour Force Australia, 2020. cat no: 6202.0

<sup>&</sup>lt;sup>27</sup> Australian Housing and Urban Research Institute (2020). Renting in the time of COVID-19: understanding the impacts

<sup>&</sup>lt;sup>28</sup> Australian Housing and Urban Research Institute (2020). COVID-19 and the impact on Australian renters

<sup>&</sup>lt;sup>30</sup> Biddle, N. et al (2020). COVID-19 and mortgage and rental repayments.

Domain	Key drivers	Measured impact
Older, single women	The impact of the pandemic on older woman can be severe. Surveys show that women are more likely to take time out of work, or to work part-time while caring for children and/or other family members. As a result, women are disproportionally more at risk of housing and financial stress as they age. <sup>16</sup>	In March 2020, the gap in superannuation between men and women was approximately 20.5 per cent. <sup>31</sup>
_	Furthermore, women have significantly lower superannuation than men. The gap in superannuation between men and women increases as they age. Superannuation balances have been reduced by COVID-19. These economic shocks have hit people with smaller balances particularly hard and reduced future returns of superannuation investments across the sector.	
Aboriginal and Torres Strait Islanders	During past pandemics, Aboriginal and Torres Strait Islander peoples of Australia have experienced poorer health outcomes than the rest of the Australian population. <sup>32</sup> For instance, during the H1N1 pandemic in 2009, diagnosis rates, hospitalisations and intensive care unit admissions occurred at 5, 8 and 3 times respectively higher than the rate recorded among non-Indigenous peoples.	
Life events		
Children living at home	According to a survey conducted by the Australian Institute of Family Studies (AIFS), new working	Based on the AIFS survey:
	arrangements meant major changes to childcare, with 64 per cent of respondents now solely replying on parent-only care, compared to 30 per cent before the pandemic <sup>34</sup> . For families with children, these	Two-fifths of parents who worked from home during the pandemic reported always or often actively caring for children while working
	housework responsibilities.	28% reported always or often passively caring for children
		21% reported sometimes actively or passively caring for children
		11% said someone else looked after the children while they worked (typically the other parent).
Bereavement	The COVID-19 pandemic is likely to have a major impact on individuals experience of death, dying and bereavement. Research shows that social distancing measures and a lack of support structures is likely to influence experiences of grief and mourning. <sup>35</sup>	No measured impact identified.

<sup>&</sup>lt;sup>31</sup> Per Capita (2020). The 'Herstory' of superannuation. A discussion paper by Per Capita for women in super.

<sup>&</sup>lt;sup>32</sup> Rudge, S. and Massey, P. Responding to pandemic (H1N1) 2009 influenza in Aboriginal communities in NSW through collaboration between NSW Health and the Aboriginal community-controlled health sector.

<sup>&</sup>lt;sup>33</sup> Australian Institute of Health and Welfare (2014). Housing circumstances of Indigenous households. Tenure and overcrowding.

<sup>&</sup>lt;sup>34</sup> Australian Institute of Family Studies. (2020). Families in Australia Survey: Life during COVID-19.

<sup>&</sup>lt;sup>35</sup> Mayland, C. R., Harding, A. J. E., Preston, N., and Payne, S. (2020). Supporting adults bereaved through COVID-19: a rapid review of the impact of previous pandemics on grief and bereavement.

Domain	Key drivers	Measured impact
Capability		
Cultural diversity	A survey of 200 people conducted by Cohealth found that migrant communities who spoke a language other than English lacked knowledge about the risks of the COVID-19 pandemic. <sup>36</sup>	Based on the Cohealth survey, 1 in 5, or 22 per cent of migrants who participated in this survey did not understand COVID-19
	The National COVID-19 Health and Research Advisory Committee reported that migrants were less likely to receive public health information because of sporadic government engagement, increasing their risk of contracting COVID-19 and transmitting it unwittingly.	information, or had not received it at all.
Low literacy levels	People with low literacy levels are less likely to be able to understand or evaluate basic information during the crisis, including government messaging about transmission.	None identified.
Digital inclusion	While the transition to online education was a significant change for most families, digitally excluded cohorts, such as low-income families with school-aged children, faced specific challenges to accessing their lessons online. <sup>37</sup>	Based on the Australian Digital Inclusion index report, 20% of primary and secondary students are from households in the lowest income bracket (earning under \$35,000 per annum). These
	Low-income families with school-aged children are relatively disadvantaged across all three digital inclusion dimensions. Low-income families lack access to appropriate devices, pay more for their digital services than others, and have lower digital skills.	households record an Index score of 52.9, which is 10.1 points lower than the national average (63), and 15.5 points lower than families with school-aged children in other income brackets (68.4).
	According to research conducted by the NSW Council of Social Services (NCOSS), there is a stark	Furthermore, based on a survey administered by the NCOSS,
	digital divide facing many Australians living in isolation as a result of COVID-19, particularly for those who are on low-incomes and have a disability. <sup>38</sup>	29 per cent of respondents had to limit mobile phone use because of financial stress
		15 per cent of respondents had to go without internet or voice calls in 2020 because they could not afford to pay their mobile phone bill
Demographics		
Young people	Young people are disproportionately affected by both the initial and longer-term economic impacts of COVID-19. A survey conducted by the Young People Affairs Council Victoria found employment and income support are major COVID-19 related concerns for young people aged 18 – 25, including worries about eligibility and support <sup>39</sup> .	Refer to Chapter 2.
	While people receiving Youth Allowance were ultimately granted the temporary COVID-19 supplement of \$550 per fortnight, the many young workers in casual employment are often excluded from JobKeeper payments.	

<sup>&</sup>lt;sup>36</sup> COVID-19 information bypasses Melbourne's non-English speakers. The Sydney Morning Herald.

- <sup>38</sup> NSW Council of Social Service (2020, April 17). Disconnected: New Research Reveals Digital Divide Facing Australians in Isolation.
- <sup>39</sup> Young people Affairs Council Victoria (2020). COVID-19 and Young People.

<sup>&</sup>lt;sup>37</sup> The Australian Digital Inclusion Index (2020). Measuring Australia's Digital Divide.

Domain	Key drivers	Measured impact
Elderly people	Australia's population is ageing. In 2014, 15 per cent (3.5 million people) of the population were aged 65+ and by 2054, this is projected to increase to 21 per cent (8.4 million people). <sup>40</sup> Elderly people have weaker immune systems or greater likelihood of existing health conditions. As the Australian population ages, we are likely to have more people living longer with mental health issues, more people developing these issues in old age and more people with both chronic diseases and mental health concerns.	Refer to Chapter 2
Females	The pandemic can adversely impact women and girls' economic and social outcomes in multiple ways.	Refer to Chapter 2.
	Women are more likely to be victims of domestic and family violence. Anecdotal evidence from China and the Ebola outbreak points to a significant rise in cases of domestic and family violence against women and girls during the COVID-19 pandemic. <sup>41</sup>	
	A large share of women is represented in industries that have experienced major job losses due to the COVID-19 pandemic. Women are often primary caregivers at home, communities and health facilities, so there are adverse impacts on labour market outcomes such as unemployment.	
Household type	According to research conducted by the Swinburne University, people in lone households have reported the highest levels of loneliness and mental health symptoms during the COVID-19 pandemic. <sup>42</sup>	Most respondents (72.5 per cent) lived with family during the pandemic and reported the lowest level of loneliness. In contrast, people living alone expressed the highest level of loneliness – reporting a loneliness score of 49.
Economic		
Industry	Industries that are greatly impacted from the COVID-19 pandemic in Victoria include Accommodation and food services, Retail trade, Education and training and Arts and recreation.	Refer to Section 2.2.5.
Unemployment	Economic shocks / recessions generally have a major impact on employment levels and therefore household incomes. In Victoria, the unemployment rate has increased from 5.2 per cent in March to 7.4 per cent in October – the highest it has been since the onset of the pandemic. However, official unemployment rates are likely to underestimate the true number of people without work, as people who are not actively looking for work are not included in the unemployment figures. <sup>43</sup>	Refer to Section 2.2.1.
Source: Various		

<sup>&</sup>lt;sup>40</sup> Australian Institute of Health and Welfare (2015), Australia's welfare 2015.

<sup>&</sup>lt;sup>41</sup> United Nations Children's Fund (2020). COVID-19: Children at heightened risk of abuse, neglect, exploitation and violence amidst intensifying containment measures.

<sup>&</sup>lt;sup>42</sup> Swinburne University (2020). Survey of Health and Wellbeing – Monitoring the Impact of COVID-19.

<sup>&</sup>lt;sup>43</sup> Grattan Institute (2020). Shutdown: Estimating the COVID-19 Employment Shock.

# Long term vulnerability

As discussed above, ACIL Allen has developed a strategic tool to define and identify vulnerable customers over time on a geographic basis. This chapter provides an outline of the tool structure, and some initial results based on the assessment of key drivers of vulnerability in the previous chapters.

# 4.1 Vulnerability measurement tool

The purpose of the vulnerability measurement tool is to assist the Commission to define and identify customers that may be exposed to vulnerable conditions in relation to specific issues or drivers (including measuring the changing nature of vulnerability post-COVID). This will help to inform policy and regulatory responses to issues as they arise.

As the factors that make populations vulnerable differ depending on the context, the tool measures many factors, which include the domains of the vulnerability framework outlined in the CPRC report (health and disability, capacity, life events, capability, demographics, economic). These are referred to as 'domains' within the tool.

The specific measures included for each domain, along with their rationale, are outlined in Appendix B.

# 4.2 Resilience index development

The resilience tool enables the construction of a resilience index using these indicators. Specifically, the Commission can define an index by selecting a set of relevant vulnerability factors and weighting them appropriately.

Table 4.1 summarises the domains and indicators captured in the tool.

Domain	Indicators
Health and disability	Disability, Family Violence, Chronic diseases, Mental Illness, Socially Isolated
Capacity	Financial stress, Low Household income, Lowest income quantile, Support payments, Underemployment, Rental status, Household debt, Retirement + household debt, Older, single women, Aboriginal and Torres Strait Islanders
Life events	Children living at home, Bereavement
Capability	Cultural diversity, Low literacy levels, Digital inclusion
Demographics	Age, Gender, Household type
Economic	Industry, Structural change
Source: ACIL Allen	

 Table 4.1
 Domains and indicators

Indicators of the measures described above can be combined into a single index to show the combined effect of these vulnerability indicators in relation to a problem at hand. For example, challenges around access to support workers for people with disability due to social distancing might be reflected by an index that takes into account the proportion of people with disabilities, and proportion of workers employed in the health and social services industries (to reflect the workforce affected). Each of these factors requires a weight to indicate the relative importance of the indicator, which will be set through professional judgement.

The indicators can also be used to construct indices related to non-COVID issues. For example, a financial crisis might merit the examination of indicators relevant to financial stress and household debt.

Following the specification of indicators and weights, the tool can present the level of vulnerability (or resilience) spatially. For example, Figure 4.1 below shows the mapping of a constructed index across metropolitan Melbourne and Victoria. Such mapping can be used by the Commission to assist with coordinating targeted supports or policies through the sectors and businesses that it regulates.

Figure 4.1 Example spatial mapping of a resilience index



# Conclusions

This report has examined a range of data relating to the factors driving vulnerability for Victorians during the COVID-19 pandemic.

The data indicate that COVID-19 has had a significant economic, mental and emotional impact on people. The ongoing uncertainty and government response to contain the pandemic has created the potential for many more people to become vulnerable, with many individuals losing income and jobs as 2020 progressed. In particular, many of the data point to the second half of 2020 being associated with more job losses and emotional effects (such as mental health issues and substance use).

The systems approach to assessing the drivers of vulnerability has found coinciding shifts in the economic environment, policing and support services, mental health, and general household concerns. These changes point to a significant potential for many more individuals to be facing circumstances that enhance their vulnerability of which the Commission should be cognisant.

To date, the Commission's regulated businesses and the ombudsman have not found a substantial increase in consumers defaulting on bills or being disconnected. However, much of this is likely to be due to policy settings that were put in place to protect vulnerable customers. The data indicate that many consumers are currently struggling with the impacts of the pandemic, and without continued policy support, many consumers may find themselves struggling to afford essential services.

As outlined in chapter 3, broader research indicates that many of the factors more generally considered to drive vulnerability have been relevant in COVID-19, and if policy changes relevant to those cohorts change, there may be a need to identify relevant cohorts and develop policy responses. The examination of spatial data through the resilience tool developed as part of this project will help the Commission to locate these cohorts and ensure that the Commission can support those at high risk.

Appendices

# Decision rules for tabular 'heat maps'

Table A.1 outlines the decision rules used to provide table highlighting in Chapter 2.

#### Table A.1Heat map decision rules

Heading	Heading	Heading	Heading
Macroeconomic			
Unemployment rate; General	Less than 6	Between 6 and 7	Greater than 7
Unemployment rate; Males	Less than 6	Between 6 and 7	Greater than 7
Unemployment rate; Females	Less than 6	Between 6 and 7	Greater than 7
Unemployment rate; Youth 15-24	Less than 10	Between 10 and 15	Greater than 15
Underemployment rate; General	Less than 8	Between 8 and 10	Greater than 10
Underemployment rate; Males	Less than 8	Between 8 and 10	Greater than 10
Underemployment rate; Females	Less than 8	Between 8 and 10	Greater than 10
Employment to population ratio; General	Greater than 63	Between 60 and 63	Less than 60
Employment to population ratio; Males	Greater than 68	Between 65 and 68	Less than 65
Employment to population ratio; Females	Greater than 58	Between 55 and 58	Less than 55
Payroll jobs index; Males 20 - 29	Greater than 98	Between 95 and 98	Less than 95
Payroll jobs index; Males 50 - 59	Greater than 98	Between 95 and 98	Less than 95
Payroll jobs index; Females 20 - 29	Greater than 98	Between 95 and 98	Less than 95
Payroll jobs index; Females 50 - 59	Greater than 98	Between 95 and 98	Less than 95
Payroll jobs by industry			
Agriculture, Forestry and Fishing	Greater than 97	Between 95 and 97	Less than 95
Mining	Greater than 97	Between 95 and 97	Less than 95
Manufacturing	Greater than 97	Between 95 and 97	Less than 95
Electricity, Gas, Water and Waste Services	Greater than 97	Between 95 and 97	Less than 95
Construction	Greater than 97	Between 95 and 97	Less than 95
Wholesale Trade	Greater than 97	Between 95 and 97	Less than 95
Retail Trade	Greater than 97	Between 95 and 97	Less than 95
Accommodation and Food Services	Greater than 97	Between 95 and 97	Less than 95
Transport, Postal and Warehousing	Greater than 97	Between 95 and 97	Less than 95
Information Media and Telecommunications	Greater than 97	Between 95 and 97	Less than 95
Financial and Insurance Services	Greater than 97	Between 95 and 97	Less than 95
Rental, Hiring and Real Estate Services	Greater than 97	Between 95 and 97	Less than 95

Understanding emerging and evolving consumer vulnerability in the coronavirus economy

# <u>A</u>CIL ALLEN

Heading	Heading	Heading	Heading
Professional, Scientific and Technical Services	Greater than 97	Between 95 and 97	Less than 95
Administrative and Support Services	Greater than 97	Between 95 and 97	Less than 95
Public Administration and Safety	Greater than 97	Between 95 and 97	Less than 95
Education and Training	Greater than 97	Between 95 and 97	Less than 95
Health Care and Social Assistance	Greater than 97	Between 95 and 97	Less than 95
Arts and Recreation Services	Greater than 97	Between 95 and 97	Less than 95
Other services	Greater than 97	Between 95 and 97	Less than 95
Family violence – affected family members			
Male 15-19 years	Less than 117	Between 117 and 122	Greater than 122
Male 20-24 years	Less than 143	Between 143 and 148	Greater than 148
Male 25-29 years	Less than 167	Between 167 and 172	Greater than 172
Male 30-34 years	Less than 173	Between 173 and 178	Greater than 178
Male 35-39 years	Less than 178	Between 178 and 183	Greater than 183
Male 40-44 years	Less than 177	Between 177 and 182	Greater than 182
Male 45-49 years	Less than 177	Between 177 and 182	Greater than 182
Male 50-54 years	Less than 148	Between 148 and 153	Greater than 153
Male 55-59 years	Less than 105	Between 105 and 110	Greater than 110
Male 60-64 years	Less than 69	Between 69 and 74	Greater than 74
Female 15-19 years	Less than 343	Between 343 and 348	Greater than 348
Female 20-24 years	Less than 565	Between 565 and 570	Greater than 570
Female 25-29 years	Less than 687	Between 687 and 692	Greater than 692
Female 30-34 years	Less than 707	Between 707 and 712	Greater than 712
Female 35-39 years	Less than 708	Between 708 and 713	Greater than 713
Female 40-44 years	Less than 578	Between 578 and 583	Greater than 583
Female 45-49 years	Less than 518	Between 518 and 523	Greater than 523
Female 50-54 years	Less than 351	Between 351 and 356	Greater than 356
Female 55-59 years	Less than 212	Between 212 and 217	Greater than 217
Female 60-64 years	Less than 143	Between 143 and 148	Greater than 148
Jobseeker receipts			
Jobseeker receipts; Under 25 years	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; 25 - 34	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; 35 - 44	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; 45 - 54	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; 55 - 64	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; 65+	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; Males	Less than 5	Between 5 and 9	Greater than 9
Jobseeker receipts; Females	Less than 5	Between 5 and 9	Greater than 9
Mental health issues	Less than 5	Between 5 and 9	Greater than 9
Specialist homelessness supports			
Financial difficulties	Less than 2	Between 2 and 5	Greater than 5

# <u>A</u>CIL ALLEN

Heading	Heading	Heading	Heading
Employment difficulties	Less than 2	Between 2 and 5	Greater than 5
Unemployment	Less than 2	Between 2 and 5	Greater than 5
Time out from family/other situation	Less than 2	Between 2 and 5	Greater than 5
Relationship/family breakdown	Less than 2	Between 2 and 5	Greater than 5
Family and domestic violence	Less than 2	Between 2 and 5	Greater than 5
Mental health issues	Less than 2	Between 2 and 5	Greater than 5
Medical issues	Less than 2	Between 2 and 5	Greater than 5
Problematic drug or substance use	Less than 2	Between 2 and 5	Greater than 5
Problematic alcohol use	Less than 2	Between 2 and 5	Greater than 5
Indigenous clients	Less than 2	Between 2 and 5	Greater than 5
20–24 years	Less than 2	Between 2 and 5	Greater than 5
25–29 years	Less than 2	Between 2 and 5	Greater than 5
50–54 years	Less than 2	Between 2 and 5	Greater than 5
55–59 years	Less than 2	Between 2 and 5	Greater than 5
Emotional and mental wellbeing			
Feeling nervous in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Feeling hopeless in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Feeling Restless or fidgety in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Feeling that everything was an effort in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Feeling so depressed that nothing could cheer you up in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Feeling worthless in the last 4 weeks	Less than 10	Between 10 and 25	Greater than 25
Personal stressors experienced due to COVID-19			
Not able to get a job	Less than 4	Between 4 and 9	Greater than 9
Difficulty in paying rent or fear of eviction	Less than 4	Between 4 and 9	Greater than 9
Difficulty paying mortgage for their home or an investment property	Less than 4	Between 4 and 9	Greater than 9
Other financial stress	Less than 4	Between 4 and 9	Greater than 9
Problems maintaining a healthy lifestyle	Less than 4	Between 4 and 9	Greater than 9
Problems managing health concerns	Less than 4	Between 4 and 9	Greater than 9
Relationship difficulties	Less than 4	Between 4 and 9	Greater than 9
Suffering loneliness	Less than 4	Between 4 and 9	Greater than 9
Problems with smoking	Less than 4	Between 4 and 9	Greater than 9
Source: ACII Allen			



Table B.1 sets out the measures and indicators included in the resilience tool, and the rationale for their inclusion.

 Table B.1
 Resilience indicator domains, indicators, and rationale

Measure	Indicator	Rationale			
Domain 1: Health and	Domain 1: Health and disability				
Disability	Persons who have need for assistance with core activities (%)	Measures the number of people with a profound or severe disability. It is defined as people who need assistance in their day-to-day lives with any or all the following core activities: self-care, mobility or communication due to a disability or long-term health condition.			
Disability	Persons with disability	Similar to the metric above. This is a specific group of people at risk of vulnerability in their interactions with markets can include people with disability (CPRC).			
Family Violence	Family incidence reported by police	Family violence is a major health and welfare issue (CPRC). The frequency of police attending family incidences may indicate a degree of family violence.			
Chronic diseases	Estimated rate of people with diabetes mellitus	Chronic diseases are long-lasting and has persistent health effects ranging from mild to severe. This metric is one of many chronic diseases and can be an indicator of consumer vulnerability.			
Chronic diseases	Estimated rate of people with mental and behavioural problems	As above.			
Chronic diseases	Estimated rate of people with heart, stroke and vascular disease	As above.			
Chronic diseases	Estimated rate of people with asthma	As above.			
Chronic diseases	Premature death rate (aged under 75)	Premature death refer to deaths that occur below a cut-off age of 75. Causes of premature death may be due to chronic diseases, such as coronary heart diseases, lung cancers, breast cancer, suicide etc (AIHW).			
Chronic diseases	Potentially avoidable death rate (aged under 75)	Potentially avoidable deaths are the number of deaths each year under 75 from conditions that are potentially preventable through individualised care or treatment through hospital care. Conditions may include a range of causes of death, including chronic diseases.			
Mental Illness	Overnight admitted mental health- related population rates of separation days	Separations are defined when a patient undergoes a hospital's admission process, completes an episode of care and is in the hospital for more than one day for mental health services and 'separates' from the hospital. The number of mental health related separations from Australian hospitals can indicate a degree of mental illness experienced by Australians.			

# <u>A</u>CIL ALLEN

Measure	Indicator	Rationale
Mental Illness	Overnight admitted mental health- related population rates of patient days	Patient days means the occupancy of hospital beds by an admitted patient for all or part of the day for mental health services. The number of patient days may indicate the degree of mental illness experienced by Australians.
Mental Illness	Mental health-related emergency department presentations in public hospitals	Mental health-related ED presentations are defined as presentations in public hospital Eds that have a principal diagnosis of mental and behavioural disorders. Similar to the metrics above, this may capture the degree of mental illness experienced by Australians.
Socially Isolated	Never Married (%)	Not being in a relationship with a partner may be a risk factor for loneliness. For instance, married people may be less likely to be lonely than single, widowed, separated or divorced Australians.
Socially Isolated	Widowed (%)	As above.
Socially Isolated	Divorced (%)	As above.
Socially Isolated	Separated (%)	As above.
Socially Isolated	Estimated rate of people aged 18 years and over who are not able to get support in times of crisis from persons outside the household	"Support in times of crisis from persons outside the household may indicate a degree of social isolation.
Socially Isolated	Estimated rate of people aged 18 years and over (or their partner) who provide support to other relatives living outside the household	Low rates for this metric could suggest a degree of social isolation for broader family and community networks."
Socially Isolated	Estimated rate of people aged 18 years and over who often have a difficulty or cannot get to places needed with transport	This metric does not provide an insight as to how connected the person providing the support feels, but it does suggest a level of family connection which may reduce the risk of social isolation and loneliness.
Domain 2: Capacity		
Financial stress	Estimated rate of people aged 18 years and over who had government support as their main source of income in the last 2 years	People who require government support as a main source of income are likely to experience unemployment and financial stress.
Financial stress	Estimated number of people aged 18 years and over who had government support as their main source of income, for 13 months or more, within the past 24 months	Similar to the above. People who had government support as the main source of income for over a year (i.e. > 13 months) may be dependent on government support and are experiencing financial stress.
Financial stress	Government pensions and allowances as main source of household income	As above.
Low Household income	% low income, welfare-dependent families (with children)	Households with children who have low household incomes. For low- income households with children, the average real equivalised disposable income is \$558/week (AIHW)
Lowest income quantile	Total income (excluding Government pensions and allowances) - Lowest Quartile (%)	"Income distribution is divided into the lowest, second, third and highest quartiles.
Support payments	Age Pension - Centrelink	Households in the lowest quartile earn less than \$21,400."
Support payments	Carer payments	The proportion of households who depend on support payments from the Australian Government can indicate financial vulnerability.

Measure	Indicator	Rationale
Support payments	Disability Support Pension	As above.
Support payments	Newstart Allowance	As above.
Support payments	Youth Allowance (Full time students/apprentices)	As above.
Support payments	JobKeeper applications	As above.
Underemployment	Underemployment ratio (proportion of employed), Persons	As above.
Rental status	Households where rent payments is equal or greater than 30% of household income	People who are underemployed are some of the most vulnerable groups in Australia in terms of financial resilience. A job does not ensure financial security and the ability to pay bills on time or in full (CPRC).
Rental status	% households in dwellings receiving rent assistance from Australian Government	The proportion of households who incur rental payments greater than 30% of household income may be experiencing a degree of financial stress.
Rental status	% low income households with rental stress	Households dependant on rent assistance from the Australian Government may be experiencing a degree of financial stress.
Rental status	Lower income renter households paying more than 30% of income on housing costs	Particularly combined with low income levels, households who are renting can face a greater risk of financial stress.
Rental status	Proportion of households across tenure and landlord type (i.e. owner with mortgage, owner without mortgage, private landlord renter, state or territory housing)	As above.
Household debt	Households where mortgage payments is equal or greater than 30% of household income	This metric paints a picture of the composition of households (i.e. whether they are home owners or renters) over time. Renters are at greater risk of energy hardship than homeowners (CPRC).
Household debt	% low income households with mortgage stress	The proportion of households who incur mortgage payments greater than 30% of household income may be experiencing a degree of financial stress.
Household debt	Households with debt 3 or more times income	Particularly combined with low income levels, households who are renting can face a greater risk of financial stress, indicating a degree of consumer vulnerability.
Household debt	Median debt to income ratio	Relative to income, people with high debt levels are more vulnerable to financial shocks.
Retirement + household debt	Average mortgage debt-to-income ratio by age group	Similar to above, this is an indicator of financial stress. People who are over-indebted will have less capacity to manage unexpected expenses if savings and/or incomes are low.
Older, single women	Estimated proportion of females - 75-79	Data is unavailable for this item at both the LGA and state level.
Older, single women	Estimated proportion of females - 80-84	Older, single women are more at risk of financial hardship than any other group (CPRC).
Older, single women	Estimated proportion of females - 85 and over	Older, single women are more at risk of financial hardship than any other group (CPRC).
Aboriginal and Torres Strait Islanders	Proportion of Aboriginal and Torres Strait Islander persons renting	Older, single women are more at risk of financial hardship than any other group (CPRC).
Aboriginal and Torres Strait Islanders	Proportion of Aboriginal and Torres Strait Islander persons unemployed	Language and/or cultural barriers limiting access to, or exclusion from social services and housing
Domain 3: Life events		

# <u>A</u>CIL ALLEN

Measure	Indicator	Rationale		
Children living at home	Proportion of couple families with children under 15 and/or dependent students	Life events such as having children can contribute to consumer vulnerability. Households with dependent children are at greater risk of financial hardship than those without children (CPRC)		
Children living at home	Proportion of couple families with dependent children only	Households with non-dependent children experience a lower risk of consumer vulnerability.		
Children living at home	Proportion of one parent families with children under 15 and/or dependent students	Sole parent households are likely to be at more financial risk compared to couple families with dependent children (CPRC)		
Children living at home	Proportion of one parent families with dependent children only	Sole parent households with non-dependent children can experience a lower risk of consumer vulnerability.		
Bereavement	Proportion of adults diagnosed anxiety or depression (Males)	A person grieving the death of a partner may experience anxiety or depression.		
Bereavement	Proportion of adults diagnosed anxiety or depression (Females)	As above.		
Domain 4: Capability				
Cultural diversity	Total born overseas (%)	Australia is culturally diverse. Those born overseas and have arrived in Australia may be less active in the labour market and a few may use payment supports (CPRC).		
Cultural diversity	Speaks a Language Other than English at Home (%)	Language and cultural barriers to accessing services and making connections can lead to high rates of unemployment, lack of quality health and community care accommodating cultural differences.		
Low literacy levels	Proportion of students in Years 3, 5, 7 and 9 who did not meet or exceed the benchmarks for literacy	Consumers with low literacy levels are likely to find it hard to understand communications such as websites, bills and emails (CPRC).		
Digital inclusion	% private dwellings where internet not accessed	As above.		
Digital inclusion	% children aged less than 15 years living in dwellings from which Internet was not accessed	For households with children aged under 15 years and do not have internet access, this may indicate some degree of financial hardship. Digital exclusion may not be able to access information about payment difficulty support, concessions etc (CPRC).		
Digital inclusion	Proportion of households with internet access	Households with internet access are more likely to not experience consumer vulnerability as they can access online resources and information and can engage with Centrelink and other government services online.		
Domain 5: Demographics				
Age / Gender	Males - 15-19 years (%)	Consumers can be disadvantaged or vulnerable in a marketplace situation if they are young (CPRC).		
Age / Gender	Males - 20-24 years (%)	As above.		
Age / Gender	Males - 25-29 years (%)	As above.		
Age / Gender	Males - 75-79 years (%)	Consumers can be disadvantaged or vulnerable in a marketplace situation if they are old (CPRC).		
Age / Gender	Males - 80-84 years (%)	As above.		
Age / Gender	Males - 85 and over (%)	As above.		
Age / Gender	Females - 15-19 years (%)	Consumers can be disadvantaged or vulnerable in a marketplace situation if they are young (CPRC).		
Age / Gender	Females - 20-24 years (%)	As above.		
Age / Gender	Females - 25-29 years (%)	As above.		

# <u>A</u>CIL ALLEN

Measure	Indicator	Rationale
Age / Gender	Females - 75-79 years (%)	Consumers can be disadvantaged or vulnerable in a marketplace situation if they are old (CPRC).
Age / Gender	Females - 80-84 years (%)	As above.
Age / Gender	Females - 85 and over (%)	As above.
Household type	% of lone person households	The proportion of lone person households are likely to experience consumer vulnerability because they may feel socially isolated or experience difficulties with social interactions.
Household type	% of group households	Contrary to lone person households, group / family households are less likely to experience consumer vulnerability.
Household type	% of family households	As above.
Domain 6: Economic		
Industry	Proportion of employed persons by industry	People who are employed are likely to be less vulnerable than those who are underemployed or unemployed in terms of financial resilience (CPRC).
Structural change	Productivity commission structural changes	
Source: ACIL Allen		



# C.1 Data sources

Australian Bureau of Statistics, Labour Force Australia, 2020. cat no: 6202.0. Retrieved from <u>https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-</u>australia/latest-release

Australian Bureau of Statistics, Weekly Payroll Jobs and Wages in Australia. cat no: 6160.0.55.001. Retrieved from <u>https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/weekly-payroll-jobs-and-wages-australia/latest-release</u>

Australian Bureau of Statistics, Labour Force Australia, Detailed, 2020. cat no: 6291.0.55.003. Retrieved from <u>https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release</u>

Crime Statistics Victoria, Law Enforcement Assistance Program data. Retrieved from <a href="https://www.crimestatistics.vic.gov.au/family-violence-data-portal/family-violence-data-dashboard/victoria-police">https://www.crimestatistics.vic.gov.au/family-violence-data-portal/family-violence-data-dashboard/victoria-police</a>

Department of Social Services, JobSeeker Payment and Youth Allowance receipts. Retrieved from <a href="https://data.gov.au/dataset/ds-dga-728daa75-06e8-442d-931c-93ecc6a57880/details?q=jobseeker">https://data.gov.au/dataset/ds-dga-728daa75-06e8-442d-931c-93ecc6a57880/details?q=jobseeker</a>

Australian Institute of Health and Welfare, Specialist Homelessness Services Collection data cubes 2011-12 to 2019-20. Retrieved from <a href="https://www.aihw.gov.au/reports/homelessness-services/shsc-data-cubes/contents/specialist-homelessness-services-collection-shsc-data-cubes">https://www.aihw.gov.au/reports/homelessness-services/shsc-data-cubes/contents/specialist-homelessness-services-collection-shsc-data-cubes</a>

Australian Bureau of Statistics, Household Impacts of COVID-19 Survey. Retrieved from <a href="https://www.abs.gov.au/statistics/people/people-and-communities/household-impacts-covid-19-survey">https://www.abs.gov.au/statistics/people/people-and-communities/household-impacts-covid-19-survey</a>

Melbourne Institute, Taking the Pulse of the Nation Tracker. Retrieved from <a href="https://melbourneinstitute.unimelb.edu.au/data/covid-19-tracker">https://melbourneinstitute.unimelb.edu.au/data/covid-19-tracker</a>

# C.2 Literature review

<sup>15</sup>People with Disability Australia (2020). *Experiences of People with Disability During COVID-19: Survey results*. Retrieved from <u>https://pwd.org.au/experiences-of-people-with-disability-during-covid-19-survey-results/</u>

<sup>16</sup>Pfitzner, N., Fitz-Gibbon, K., True., J. (2020). *Responding to the 'Shadow Pandemic'. Practitioner views on the nature of and responses to violence against women in Victoria, Australia during the COVID-19 restrictions*. Retrieved from <u>https://research.monash.edu/en/publications/responding-to-the-shadow-pandemic-practitioner-views-on-the-natur</u>

<sup>17</sup>Chudasama, V., Gilles, C., Zaccardi, F., Coles, B., Davies, M., Seidu., S and Khunti, K (2020). Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7308780/</u>

<sup>18</sup>Heart Foundation (2020, May 20). *People stop seeing GPs for chronic illnesses: new MBS data reveal nearly 100,000 fewer visits.* Retrieved from <a href="https://www.heartfoundation.org.au/media-releases/people-stop-seeing-gps-for-chronic-illnesses">https://www.heartfoundation.org.au/media-reveal nearly 100,000 fewer visits. Retrieved from <a href="https://www.heartfoundation.org.au/media-releases/people-stop-seeing-gps-for-chronic-illnesses">https://www.heartfoundation.org.au/media-reveal nearly 100,000 fewer visits. Retrieved from <a href="https://www.heartfoundation.org.au/media-releases/people-stop-seeing-gps-for-chronic-illnesses">https://www.heartfoundation.org.au/media-releases/people-stop-seeing-gps-for-chronic-illnesses</a>

<sup>19</sup>Brotherhood of St Laurence and Nous Group (2020). *Hidden in plain sight; The impact of the COVID-19 response on mature-age, low-income people in Australia*. Retrieved from <a href="https://www.bsl.org.au/research/publications/hidden-in-plain-sight-the-impact-of-the-covid-19-response-on-mature-age-low-income-people-in-australia/">https://www.bsl.org.au/research/publications/hidden-in-plain-sight-the-impact-of-the-covid-19-response-on-mature-age-low-income-people-in-australia/</a>

<sup>20</sup>Neelam, K., Duddu, V., Anyim, N., Neelam, J., and Lewis, S (2020). *Pandemics and pre-existing mental illness: A systematic review and meta-analysis*. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7683956/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7683956/</a>

<sup>21</sup>COVID-19 disrupting mental health services in most countries, WHO survey (2020, 5 October). *World Health Organisation*. Retrieved from <u>https://www.who.int/news/item/05-10-2020-covid-19-</u> disrupting-mental-health-services-in-most-countries-who-survey

<sup>22</sup>Relationships Australia. (2018). *Is Australia experiencing and epidemic of loneliness? Findings from 16 waves of the Household Income and Labour Dynamics of Australia Survey.* Retrieved from <a href="https://www.relationships.org.au/what-we-do/research/an-epidemic-of-loneliness-2001-2017">https://www.relationships.org.au/what-we-do/research/an-epidemic-of-loneliness-2001-2017</a>

<sup>23</sup>Smith B. J. and Lim, M. H (2020). How the COVID-19 pandemic is focusing attention on loneliness and social isolation. Retrieved from <u>https://www.researchgate.net/publication/342523539\_How\_the\_COVID-</u> <u>19\_pandemic\_is\_focusing\_attention\_on\_loneliness\_and\_social\_isolation</u>

<sup>24</sup>Dawel, A., Shou, Y., Smithson, M., Cherbuin, N., Banfield, M., Calear, A., Farrer, L., Gray, D., Gulliver, A., Housen, T., McCallum, S., Morse, A., Murrary, K., Newman, E., Harris, R. and Batterham P (2020). *The Effect of COVID-19 on Mental Health and Wellbeing in a Representative Sample of Australian Adults*. Retrieved from https://www.frontiersin.org/articles/10.3389/fpsyt.2020.579985/full

<sup>25</sup>O'Sullivan, T. and Bourgoin, M. (2010). *Vulnerability in an influenza pandemic: Looking beyond medical risk.* Retrieved from <a href="http://icid.com/files/Marg\_Pop\_Influenza/Lit\_Review\_-\_\_\_\_vulnerability\_in\_Pandemic\_EN.pdf">http://icid.com/files/Marg\_Pop\_Influenza/Lit\_Review\_-\_\_\_vulnerability\_in\_Pandemic\_EN.pdf</a>

<sup>26</sup>Australian Bureau of Statistics, Labour Force Australia, 2020. cat no: 6202.0

<sup>27</sup>Australian Housing and Urban Research Institute. (2020). *Renting in the time of COVID-19: understanding the impacts*. Retrieved from

https://www.ahuri.edu.au/\_\_data/assets/pdf\_file/0017/65240/AHURI-Final-Report-340-Renting-inthe-time-of-COVID-19-understanding-the-impacts.pdf

<sup>28</sup>Australian Housing and Urban Research Institute (2020). COVID-19 and the impact on Australian renters. Retrieved from <u>https://www.ahuri.edu.au/ data/assets/pdf\_file/0025/65275/PES-FR340-</u> Renting-in-the-time-of-COVID-19-understanding-the-impacts.pdf

<sup>29</sup>CoreLogic (2020). *Could household debt levels be a trigger for another round of credit tightening?* Retrieved from <u>https://www.corelogic.com.au/news/could-household-debt-levels-be-trigger-another-round-credit-</u>

tightening?utm\_medium=email&utm\_source=newsletter&utm\_campaign=20201123\_propertypulse &utm\_content=pp\_blog+

<sup>30</sup>Biddle, N., Edwards, B., Gray, M. and Sollis, K. (2020). COVID-19 and mortgage and rental repayments. Retrieved from <u>https://csrm.cass.anu.edu.au/sites/default/files/docs/2020/6/COVID-19 and housing FINAL.pdf</u>

<sup>31</sup>Per Capita. (2020). The 'Herstory' of Superannuation. A discussion paper by Per Capita for Women in Super. Retrieved from <u>https://percapita.org.au/wp-content/uploads/2020/08/The-Herstory-of-Superannuation-FINAL-1.pdf</u>

<sup>32</sup>Rudge, S. and Massey, P. (2010). *Responding to pandemic (H1N1) 2009 influenza in Aboriginal communities in NSW through collaboration between NSW Health and the Aboriginal community-controlled health sector*. Retrieved from <a href="https://pubmed.ncbi.nlm.nih.gov/20374691/">https://pubmed.ncbi.nlm.nih.gov/20374691/</a>

<sup>33</sup>Australian Institute of Health and Welfare. (2014). Housing circumstances of Indigenous households: tenure and overcrowding. Retrieved from <u>https://www.aihw.gov.au/getmedia/c1daa420-3547-497c-b964-</u> <u>17b149ceba02/17718.pdf.aspx?inline=true</u>

<sup>34</sup>Australian Institute of Family Studies. (2020). *Families in Australia Survey: Life during COVID-19*. Retrieved from <u>https://aifs.gov.au/sites/default/files/publication-documents/covid-19-survey-report\_1\_early\_findings\_0.pdf</u>

<sup>35</sup>Mayland, C. R., Harding, A. J. E., Preston, N., and Payne, S. (2020). *Supporting adults bereaved through COVID-19: a rapid review of the impact of previous pandemics on grief and bereavement*. Retrieved from <a href="https://www.jpsmjournal.com/article/S0885-3924(20)30388-2/fulltext">https://www.jpsmjournal.com/article/S0885-3924(20)30388-2/fulltext</a>

<sup>36</sup>COVID-19 information bypasses Melbourne's non-English speakers (2020, May 17). *The Sydney Morning Herald*. Retrieved from <u>https://www.smh.com.au/national/victoria/covid-19-information-bypasses-melbourne-s-non-english-speakers-20200517-p54tq4.html</u>

Australian Prudential Regulation Authority. (2020). COVID-19 Early Release Scheme - Issue 7. Retrieved from <a href="https://prod.apra.shared.skpr.live/covid-19-early-release-scheme-issue-7">https://prod.apra.shared.skpr.live/covid-19-early-release-scheme-issue-7</a>.

You may have just had the most expensive coffee of your life. *The Sydney Morning Herald*. Retrieved from <u>https://www.smh.com.au/national/you-may-have-just-had-the-most-expensive-coffee-of-your-life-20200530-p54xys.html</u>

<sup>37</sup>The Australian Digital Inclusion Index (2020). *Measuring Australia's Digital Divide*. Retrieved from <a href="https://apo.org.au/sites/default/files/resource-files/2020-10/apo-nid308474.pdf">https://apo.org.au/sites/default/files/resource-files/2020-10/apo-nid308474.pdf</a>

<sup>38</sup>NSW Council of Social Service (2020, April 17). *Disconnected: New Research Reveals Digital Divide Facing Australians in Isolation*. Retrieved from

https://www.ncoss.org.au/2020/04/disconnected-new-research-reveals-digital-divide-facingaustralians-in-isolation/

<sup>39</sup>Young people Affairs Council Victoria (2020). COVID-19 and Young People. Retrieved from https://www.yacvic.org.au/assets/Documents/FINAL-Young-People-Survey-Results.pdf

<sup>40</sup>Australian Institute of Health and Welfare (2015). *Australia's welfare 2015*. Retrieved from <u>https://www.aihw.gov.au/getmedia/692fd1d4-0e81-41da-82af-be623a4e00ae/18960-</u> <u>aw15.pdf.aspx?inline=true</u>

<sup>41</sup>United Nations Children's Fund (2020, March 20). COVID-19: Children at heightened risk of abuse, neglect, exploitation and violence amidst intensifying containment measures. Retrieved from <u>https://www.unicef.org/press-releases/covid-19-children-heightened-risk-abuse-neglect-exploitation-and-violence-amidst</u>

<sup>42</sup>Swinburne University (2020). Survey of Health and Wellbeing – Monitoring the Impact of COVID-19. Retrieved from <u>https://www.swinburne.edu.au/content/dam/media/docs/Loneliness-in-COVID-19-15-07-20\_final.pdf</u>

<sup>43</sup>Grattan Institute (2020). *Shutdown: estimating the COVID-19 employment shock.* Retrieved from <a href="https://grattan.edu.au/report/shutdown-estimating-the-covid-19-employment-shock/">https://grattan.edu.au/report/shutdown-estimating-the-covid-19-employment-shock/</a>

Melbourne Level 9, 60 Collins Street Melbourne VIC 3000 Australia +61 3 8650 6000

# Canberra

Level 6, 54 Marcus Clarke Street Canberra ACT 2601 Australia +61 2 6103 8200

ACIL Allen Pty Ltd ABN 68 102 652 148 Level 9, 50 Pitt Street Sydney NSW 2000 Australia +61 2 8272 5100

Sydney

Perth Level 12, 28 The Esplanade Perth WA 6000 Australia +61 8 9449 9600

#### Brisbane

Level 15, 127 Creek Street Brisbane QLD 4000 Australia +61 7 3009 8700

#### Adelaide

167 Flinders Street Adelaide SA 5000 Australia +61 8 8122 4965