THE UNIVERSITY OF MELBOURNE

MELBOURNE INSTITUTE
APPLIED ECONOMIC & SOCIAL RESEARCH

Research Insights

Does location help explain why some people are vulnerable to financial stress?

Australians most vulnerable to COVID-19 induced financial stress are those living and working in a region with limited access to economic resources.

ISSN 2653-004X

No. 17/20

July 2020

Examining financial vulnerability by region

The coronavirus (COVID-19) pandemic has had a drastic impact on the Australian labour market with many employees working fewer hours or losing their jobs. Consequently, many people currently face a substantial decline in their income, potentially pushing them into financial stress. These impacts, however, are unlikely to be spread evenly across Australia, with the ability to cushion income shocks being influenced by the economic resources available in certain regions. The ability to adequately address financial stress, therefore, potentially involves a spatial perspective that reflects regional differences in factors such as access to economic resources and employment conditions.

This Research Insight takes an important first step in examining the spatial dimensions of financial vulnerability by considering how it differs across regions in Australia. It also evaluates the extent to which the spatial dimensions of financial vulnerability reflect regional differences in access to economic resources.

Understanding the relationship between financial stress, labour market conditions, and socio-economic disadvantage is of particular importance at present due to the substantial economic and social upheaval caused by COVID-19.

The presence of both region-specific labour demand and supply and economic disadvantage tends to be interconnected, with certain suburbs and areas experiencing consistently higher unemployment and lower levels of social inclusion. This suggests that there might be a spatial (i.e. location based) dimension to financial stress.

The spatial elements of socio-economic disadvantage are particularly important for a large geographically dispersed country such as Australia. The Australian Bureau of Statistics (ABS) has developed the *Socio-Economic Indexes for Areas* (SEIFA) to measure different facets of advantage and disadvantage such as occupational, financial and educational disparities.

This Research Insight uses the SEIFA Index of Economic Resources (IER), which focuses on income and wealth to reflect the financial aspects of relative socio-economic advantage and disadvantage.

By combining IER data with the Melbourne Institute's *Taking the Pulse of the Nation* survey evidence on the local (or region-specific) experience of financial stress (based on two months of weekly data), we are able to examine the spatial aspects of financial vulnerability.

FINANCIAL VULNERABILITY

Financial vulnerability is identified using weekly survey questions that ask respondents to describe their current financial conditions, in terms of paying for essential goods and services such as bills, rents, and mortgages. We characterise individuals as being vulnerable to financial stress if they self-report that they have difficulties paying for essential goods and services or are only 'making ends meet'. At the opposite end of the spectrum, individuals can also report that they are (moderately or very) financially comfortable.

The results support the presence of significant spatial variation in the experience of being financially vulnerable. Moreover, the spatial variation in financial vulnerability appears to be statistically related to geographical differences in access to economic resources.

This Research Insight also examines labour market conditions and demographic factors – such as age differences across different regions in Australia – to help explain some of the factors contributing to financial vulnerability. It is important to note, however, that while people who have a low income are overrepresented in low-resourced areas, due to factors such as housing affordability, we cannot infer that economic disadvantage is directly caused by location of residence. Although there are many ways to analyse community disadvantage,[1] our interest is to identify which regions have households that are especially sensitive to financial vulnerability under the current conditions. This is particularly useful for targeting local or region-specific interventions to improve access to economic resources, and therefore wellbeing, during the COVID-19 crisis.

Spatial variation in the incidence of financial vulnerability

For eight weeks between April and May 2020, the *Taking the Pulse of the Nation* survey asked the question: How would you describe your financial conditions in terms of paying for essential goods and services? Respondents were asked to indicate whether they were very or moderately financially stressed; making ends meet; or were moderately or very financially comfortable.[2]

We developed a measure of financial vulnerability based on the respondents reporting being either financially stressed (in terms of paying for essential goods and services) or making ends meet. These two responses are used to define 'financially vulnerable' in this analysis because economic and social policies typically aim to both improve the financial conditions of those in financial stress and to prevent households from slipping into a state of not being able to pay for essential goods and services.

To understand the regional distribution of those who are financially vulnerable, we created a regional financial vulnerability measure that is the proportion of all respondents identified as financially vulnerable within each Social Economic Region (as determined by their SA4 classification). This proportion is weighted using respondents' stratification factors so that it is representative of the Australian population.

SA4s are regions classified by the ABS as having a population of at least 100,000 persons[3], such that each region reflects the highest degree of (geographic) interconnectivity between the labour supply (where people live) and demand (where people work). Survey respondents are from 87 SA4 regions covering the five mainland states.[4]

A limitation of this study is that we can only focus on the states with the largest populations. Thus, we exclude the Northern Territory, Tasmania, and outlying areas from the analysis since the small number of survey respondents in SA4 regions within these states and territories (Hobart being the exception) do not generate reliable results.

Meanwhile, the Australian Capital Territory is absent from our analysis because, by construction, there is no spatial variation across SA4 region in this territory.

Key Insights

1 Regional distribution of the financially vulnerable

Western Australia (WA) has the highest proportion of financially vulnerable residents (in the Mandurah area, with 81.1%). By contrast, the smallest proportion of respondents deemed to be financially vulnerable (41.2%) reside in Victoria and are located in Melbourne's inner south (Figure 1).

Descriptive statistics of these proportions are presented in Table 1. The number of respondents in the sample is reported in the last row.

Table 1: Descriptive statistics of the proportion of financially vulnerable, by region for the mainland states

	NSW	VIC	QLD	SA	WA	AUS (5 states)
Average (%)	61.2	59.7	59.4	59.4	60.8	60.2
Std. Dev.	(6.7)	(7.6)	(8.9)	(5.5)	(8.2)	(7.4)
Maximum	76.6	71.6	74.9	64.4	81.1	81.1
Minimum	52.1	41.2	45.6	48.8	49.9	41.2
Observations	2573	2331	1554	1177	1168	8803

Note: The statistics reflect the proportion of survey respondents to the Melbourne Institute's *Taking the Pulse of the Nation* survey (over an eight-week period from April to May 2020) deemed to be financially vulnerable across SA4 regions in each relevant state. For example, the reported maximum is the SA4 in NSW with the maximal proportion of financially vulnerable respondents. Source: the Melbourne Institute.

The results show that the average proportion of individuals across SA4 regions that were financially vulnerable is similar across all states, albeit slightly higher in New South Wales (NSW). Queensland recorded the largest variation in the proportion of financial vulnerability across its SA4s (indicating greater differences across its regions in terms of their level of financial vulnerability), with South Australia recording the smallest variation.

Within each state the survey data shows significant spatial disparity in financial vulnerability, reflecting, in part, the lockdown and the different pace of the easing of restrictions across the states.

Figure 1: Proportion of the financially vulnerable by SA4

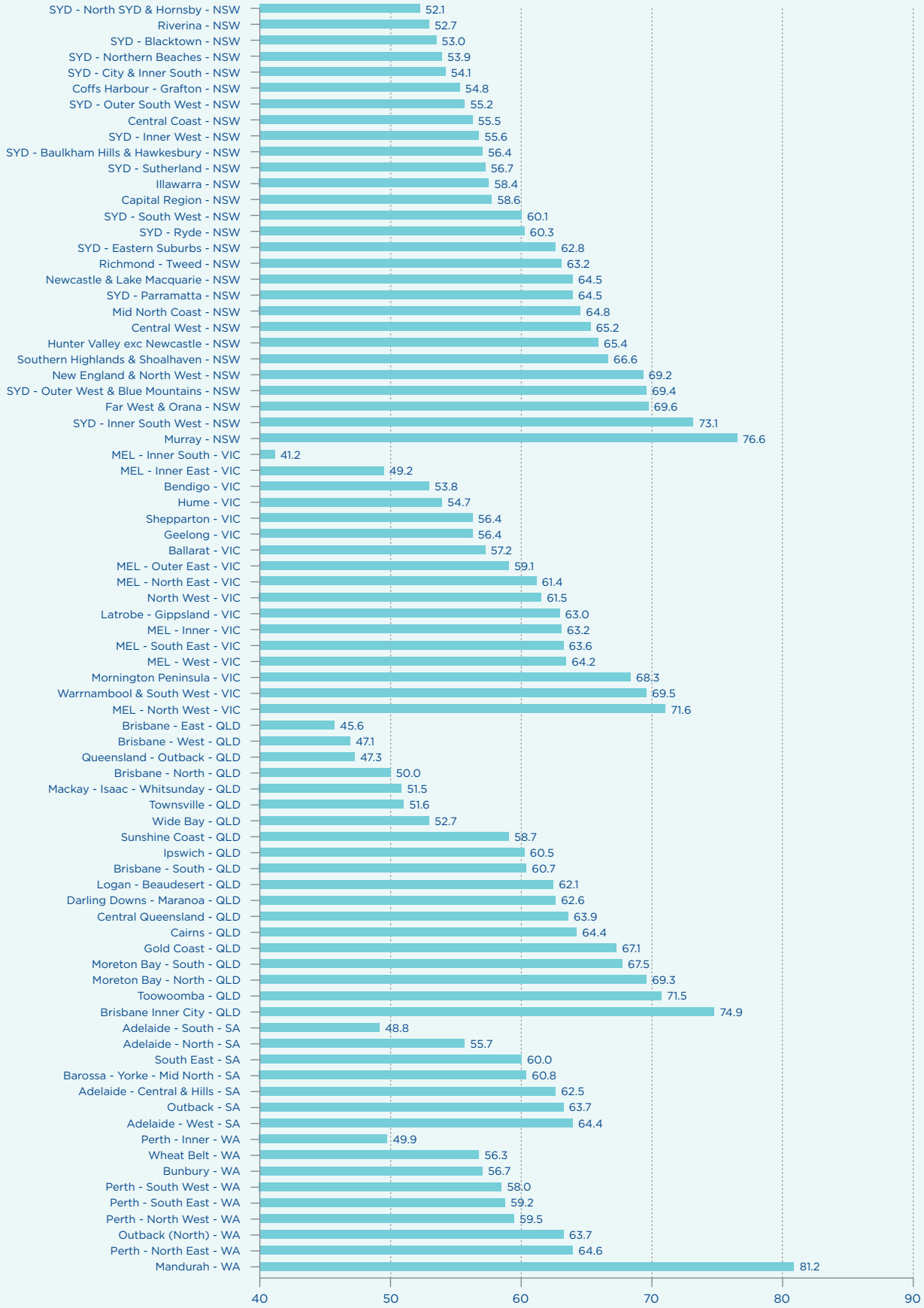
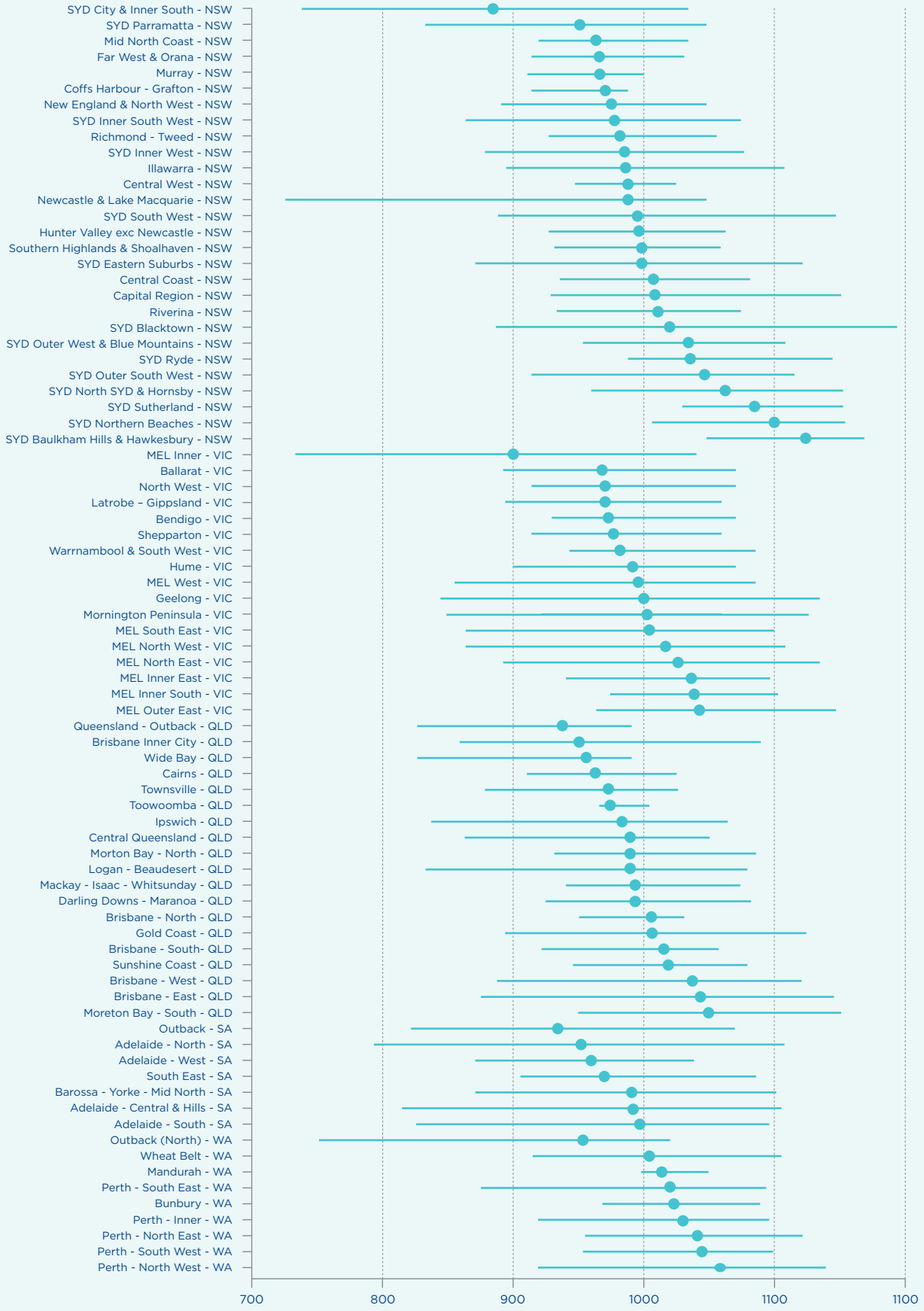


Figure 2: ABS SEIFA Index of Economic Resources by SA4



Note: Figure 2 plots the IER-SA4s together with their maximum and minimum IER values. The blue square is the average value of IERs within each SA4 (IER-SA4) and the minimum-maximum range is denoted by the blue horizontal line. The figure demonstrates the degree of access to economic resources within each SA4 and the variation between the SA4s (grouped by states). Data on IER from Australian Bureau of Statistics.

2 Disparity in access to economic resources

HOW IS ACESS TO ECONOMIC RESOURCES CALCULATED?

Access to economic resources is captured by the ABS' IER measure. A higher (lower) value of the Index indicates a relatively greater (lesser) access to economic resources with 1000 being the benchmark. A region may have a high value if there are many households with high income or a large proportion of homeowners in the area, combined with few low income households or few households paying low rent. The opposite is true for a low value of the Index.[6]

To further understand the degree of access to economic resources of the *Taking the Pulse of the Nation* survey respondents, we assign each respondent with a reading of the IER based on their reported postcode. Readings within an SA4 are then averaged to form a representative IER reading of the SA4 (denoted IER-SA4).

The level of access to economic resources varies considerably across the country and, to a large extent, reflects the varying socio-economic profiles and financial conditions of households (Figure 2).[5]

Victoria, Queensland and New South Wales exhibit a greater variation in the level of access to economic resources across each state's SA4 regions (see Table 2). In contrast, all SA4 regions in South Australia exhibit a consistently lower level of access to economic resources. By comparison, almost all SA4 regions in Western Australia have a greater level of access to economic resources, the exception being Western Australia's northern outback region.

The disparity within some SA4 regions is also striking. In particular, Sydney's city and inner south, and Melbourne's inner suburbs, are the regions with the lowest average level of access to economic resources across all states. These two regions also have one of the highest variations among the residents within their statistical boundaries.

Table 2: Descriptive statistics of the ABS Index of Access to Economic Resources by SA4 region within each state

	NSW	VIC	QLD	SA	WA	AUS (5 states)
Average (%)	998.5	988.6	988.1	965.5	1012.8	992.9
Std. Dev.	(48.5)	(35.4)	(31.2)	(23.6)	(30.3)	(39.3)
Maximum	1119.7	1038.6	1045.1	990.9	1053.8	1119.7
Minimum	879.7	893.4	931.5	928.5	947.6	879.7

Notes: Summary statistics of IER-SA4 values across SA4 regions in each state. NSW has the highest and lowest values of the IER-SA4s, in addition to the largest variation among its SA4s. As noted, SA has the lowest average value of the IER-SA4 and the smallest variation across its SA4s, implying that access to economic resources is more evenly distributed across the SA4 regions of SA. Source: ABS and the Melbourne Institute.

3 Relationship between regional access to economic resources and financial vulnerability

Looking at the five mainland states together, it appears that people who live in regions with the least economic resources are more likely to report being vulnerable to financial stress.

The strength of this relationship varies considerably across the states (Figures 3a-e). It is strongest in South Australia (the correlation coefficient is -0.42), although due to the state's relatively small population there are only a few regions underlying this estimate. However, a similar correlation is also evident in the most populous state, New South Wales (-0.36). The weakest correlation is in Queensland (-0.16).

Why might we see such a relationship? One possibility is that residents in areas with greater economic resources are less susceptible to financial stress – for example, homeownership is higher in these areas (as discussed previously). Another possibility is that their exposure to the effects of COVID-19 is lower.

Figure 3a: Correlation between IER and financial vulnerability - NSW

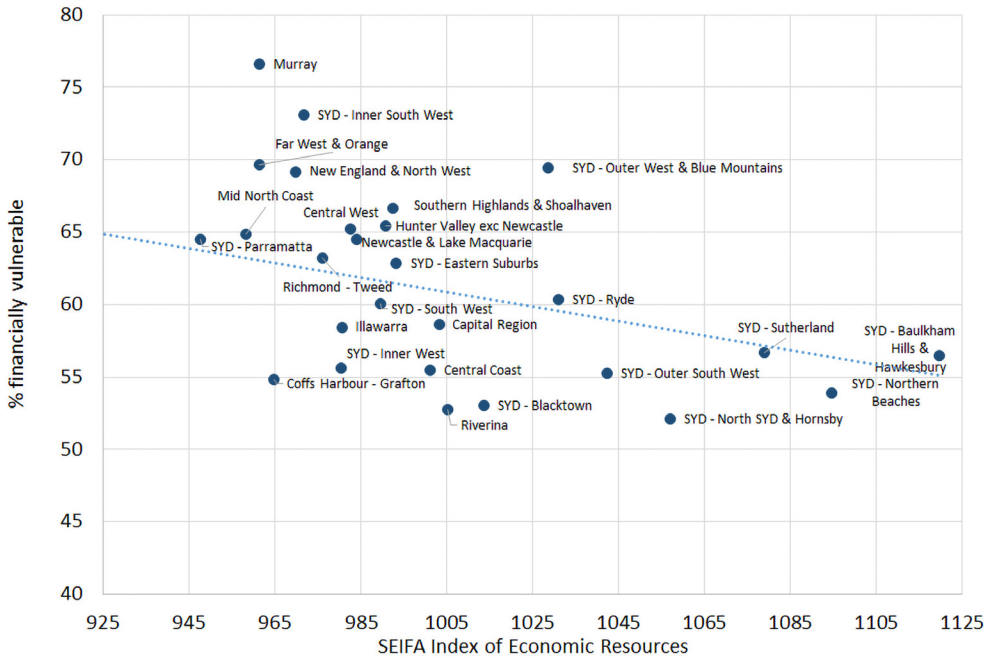


Figure 3b: Correlation between IER and financial vulnerability - VIC

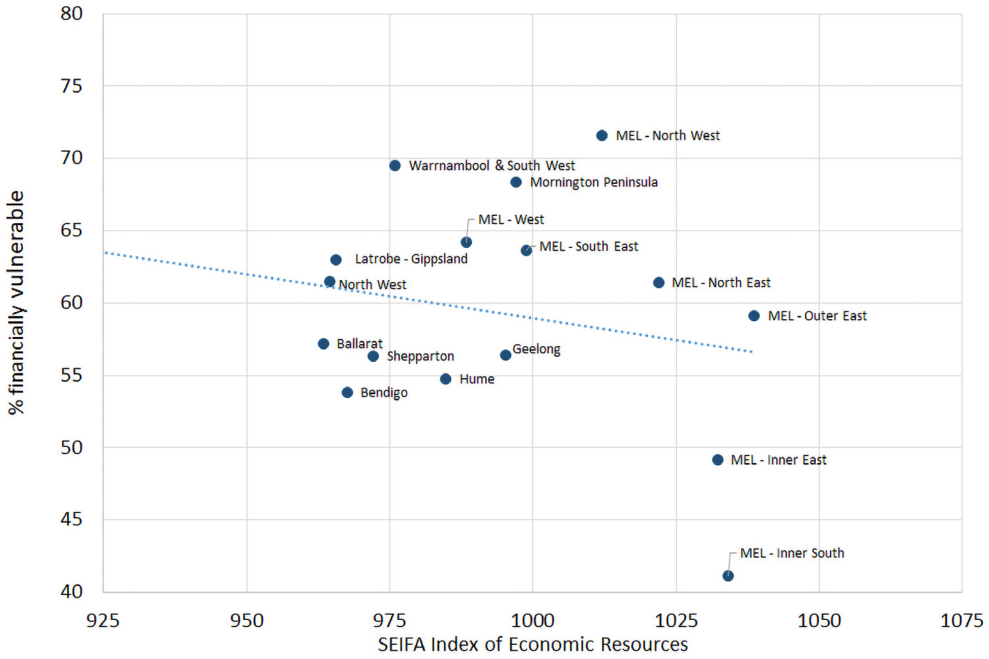


Figure 3c: Correlation between IER and financial vulnerability- QLD

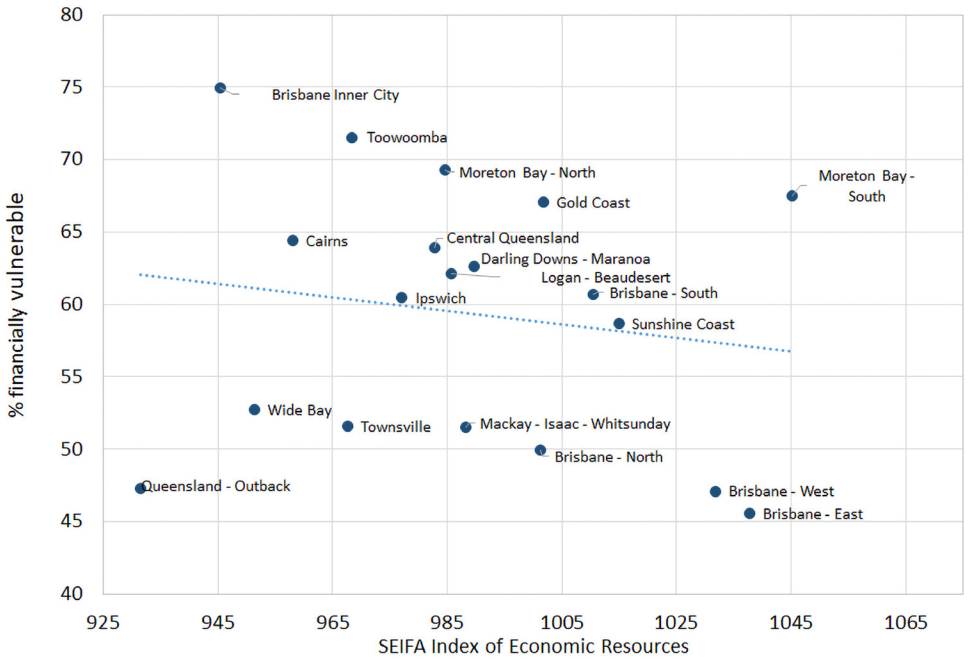


Figure 3d: Correlation between IER and financial vulnerability – SA

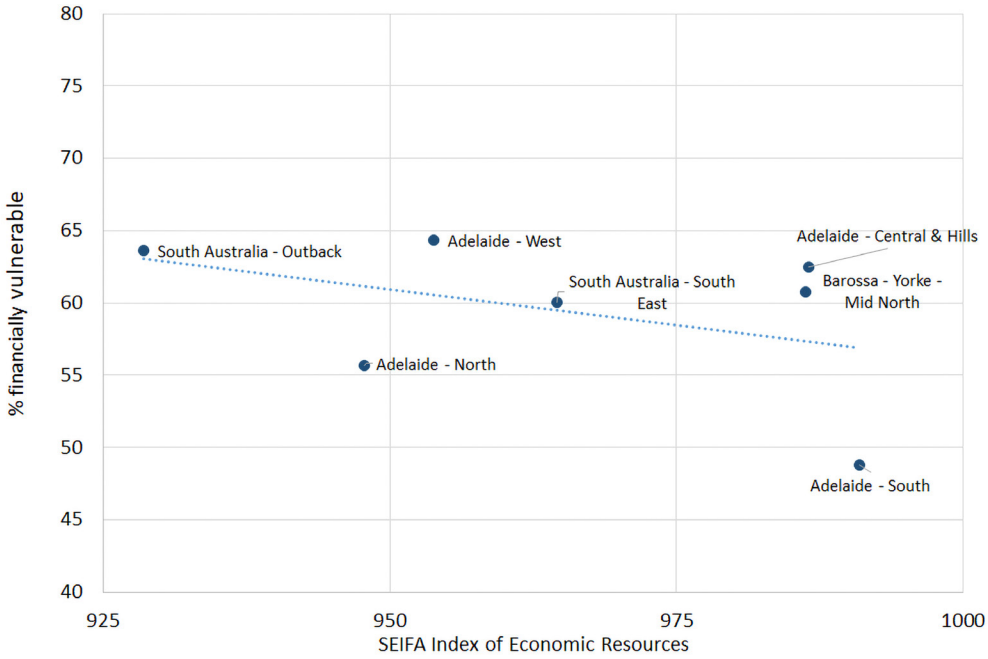
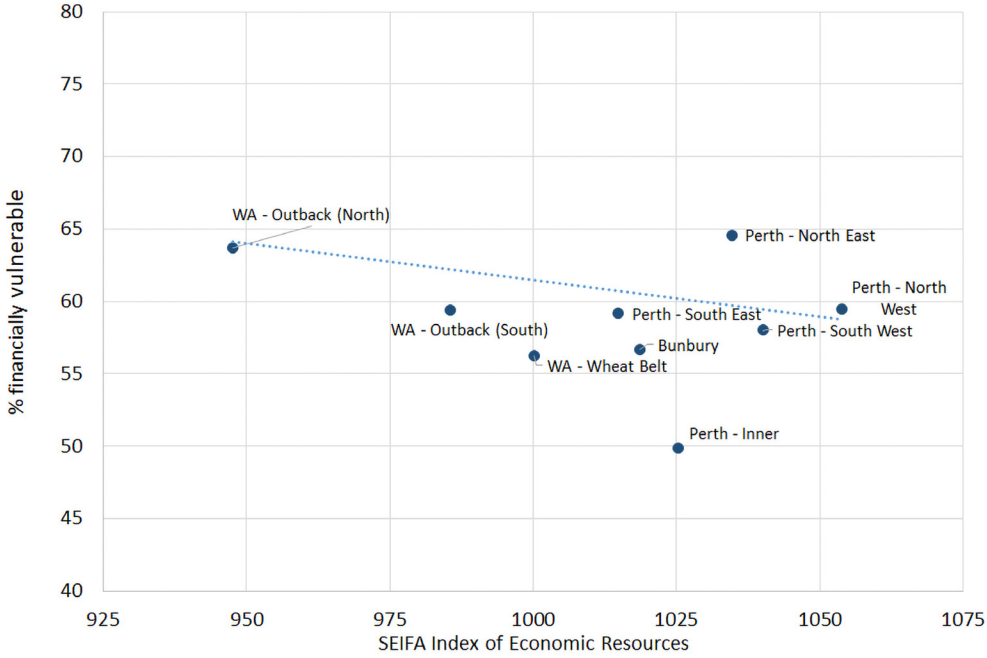


Figure 3e: Correlation between IER and financial vulnerability - WA



4 Regional employment outcomes and financial vulnerability

A key determinant of financial stress is employment, which has been dramatically impacted by COVID-19. Declines in the ABS measure of employment constructed from firms' payrolls[7] are positively associated with the average level of economic resources in a region (the correlation being 0.39), meaning that larger declines in employment tend to occur in areas with lower resources.

Declines in payroll employment have been larger in the capital cities of the most populous states. Nevertheless, substantial declines have also occurred outside all the capital cities and these have been larger in Victoria and South Australia. While there are considerable differences across the regions, it is likely that falls in agricultural, forestry and fishing, and tourism-related employment are contributing to these declines. COVID-19, however, is not the sole reason for payroll employment changes during this period.[8]

There is no simple statistic that can fully capture the state of either the national or regional labour markets. For example, the national unemployment rate reached 7.1 per cent in May 2020, an increase of 1.9 percentage points from March 2020. This, however, considerably understates the extent of the deterioration, with the participation rate falling by 3.1 percentage points thereby indicating that many people gave up looking for employment and left the labour market. The ABS estimates that if the increases in people not in the labour force in April and May 2020 had not occurred then the unemployment rate would have reached about 11.3 per cent (ABS 2020b) by the end of May.

Examining the employment to population ratio, which captures declines in both employment and participation, can also be used to summarise regional labour market activity.[9] Regions with lower employment to population ratios in May 2020 have higher proportions of financially vulnerable residents, on average, in April and May (the correlation coefficient being -0.25). These regions also tend to have less access to economic resources (the correlation between the employment to population ratio and the IER is modest, namely 0.17). A caveat, especially for capital cities, is that some people live in a different region to where they work.

The COVID-19 pandemic has resulted in many people working less than they usually would, either due explicitly to lockdown measures, weak demand or non-economic reasons. Nationally, aggregate hours worked fell sharply in both April and May 2020, to be a staggering 10.2 per cent lower than in March 2020. Unfortunately, such data are not available on a regional basis.[10]

5 Youth unemployment, economic resources and financial vulnerability

COVID-19 has had a major impact on youth (those aged 15-24) employment. Nationally, youth employment was 16.8 per cent lower in May than in March 2020, with many leaving the labour market – the youth participation rate decreased by 8.4 percentage points, reaching 59.9 per cent. This reflects in part that younger people form a relatively large share of employees in industries significantly affected by the pandemic, such as the hospitality sector (see Wilkins, 2020). The youth unemployment rate jumped by 4.5 percentage points, reaching 16.1 per cent in May. It should be noted, however, that youth unemployment has always been considerably higher than the overall unemployment rate.

Access to economic resources may influence the extent to which the increase in youth unemployment translates into financial vulnerability.

Table 3 shows the age distribution across the IERs (ranked and grouped into 10 decile groups). It is evident that young people tend to be more concentrated in areas with less access to economic resources.

Despite the sharp worsening in youth unemployment during the pandemic, the extent of financial stress in many deciles is not substantially higher than those aged 25-44 (Table 4). This reflects that the latter are more likely to have dependents (i.e. children) and a mortgage. Indeed, Tsiaplias (2020) notes that there is a substantial lifecycle aspect to the proportion of financially stressed, as demonstrated by the sharp drop in the proportion of people who are 55 years of age and older who are financially stressed irrespective of the IER decile. Regions populated with more people under 55 years of age and with lower access to economic resources, are likely to have a greater proportion of residents who are financially disadvantaged.

Table 3: Age group distribution by IER decile (%)

IER Decile	IER Range	Age 18-24	Age 25-44	Age 45-54	Age 55-64	Age 65+
Decile 1	646-927	17.06	48.82	14.33	10.28	9.51
Decile 2	927-956	11.75	35.74	17.96	14.63	19.92
Decile 3	956-973	9.48	37.39	16.73	15.54	20.86
Decile 4	973-988	11.76	36.93	13.74	15.92	21.64
Decile 5	988-1003	9.61	36.30	16.58	16.03	21.48
Decile 6	1003-1018	8.23	34.89	16.35	17.40	23.12
Decile 7	1018-1035	9.22	33.21	18.44	17.78	21.36
Decile 8	1035-1054	11.13	34.86	16.84	13.23	23.94
Decile 9	1055-1080	8.94	33.66	16.92	17.73	22.74
Decile 10	1080-1194	11.53	28.51	17.58	18.76	23.62

Note: A higher decile (1-10) indicates a greater access to economic resources.

Table 4: Proportions of financial disadvantage by age group per IER decile (%)

IER Decile	IER Range	Age 18-24	Age 25-44	Age 45-54	Age 55-64	Age 65+
Decile 1	646-927	68.32	71.88	72.11	50.52	42.12
Decile 2	927-956	78.18	73.08	74.39	57.75	35.99
Decile 3	956-973	70.11	69.54	67.86	54.83	37.06
Decile 4	973-988	70.77	75.23	71.42	52.82	36.18
Decile 5	988-1003	72.05	70.98	64.04	60.38	43.76
Decile 6	1003-1018	76.45	71.22	66.00	47.46	29.40
Decile 7	1018-1035	52.21	69.71	62.35	48.46	39.55
Decile 8	1035-1054	56.40	66.04	66.43	54.38	27.24
Decile 9	1055-1080	68.91	61.89	62.35	37.39	35.90
Decile 10	1080-1194	77.71	67.84	52.30	42.94	38.31

Implications for policies relating to financial vulnerability during COVID-19

Understanding the locations of Australians who are at risk of experiencing financial stress is important for implementing targeted regional income support and social welfare policies. This Research Insight provides evidence that there is geographical dispersion in both financial vulnerability and access to economic resources (as measured by the IER). Importantly there is evidence of a relationship between region-specific financial disadvantage during the COVID-19 crisis and the IERs in those areas.

Our findings support the notion of a spatial dimension to understanding the prevalence of financially vulnerable people within society. Factors such as work and age are important and areas that have lower access to economic resources and are populated with younger people tend to experience higher levels of financial vulnerability.

The findings suggest that there is value in adopting a two-pronged approach to dealing with financial vulnerability in general and especially during the COVID-19 crisis:

1. Additional investment by the Government in disadvantaged areas (including those outside of the capital cities) with a focus on improving access to employment opportunities can help lessen regional disparities in access to resources. This could include, for example, improving both public transport to major employment centres and education opportunities, including vocational employment.
2. Targeted support to younger households (e.g. additional income support) can address discernible differences in the experience of being vulnerable to financial stress between younger and older households.

Overall, a spatial analysis of where those vulnerable to financial stress are located can help inform policy responses by identifying the SA4s that need special attention. Importantly, targeting support in these areas can help to reduce the financial vulnerability Australians are currently experiencing during this period of significant economic turmoil.

Further Information

Datasets

This analysis has been drawn from *Taking the Pulse of the Nation* – Melbourne Institute's survey of the impact of COVID-19. The aim of the weekly survey is to track changes in the economic and social wellbeing of Australians living through the effects of the coronavirus pandemic whilst adapting to various changes in Federal and State government policies. Each week, the survey contains responses from 1,200 persons, aged 18 years and over. Sample weights can be used to make the sample representative of the Australian population on gender, age and location.

It also uses labour force and payroll employment data from the ABS and the ABS SEIFA Index of Economic Resources.

Authors

Professor Guay Lim, Dr. Viet Nguyen, Dr. Tim Robinson and Dr. Sam Tsiaplias

Melbourne Institute: Applied Economic & Social Research, University of Melbourne

Research Insights produced by the Melbourne Institute provide a clear and practical understanding of contemporary economic and social issues in Australia.

Supported by high-quality academic analysis, each Research Insight aims to make sense of complex issues to enable evidence-based decision making for policy and practice.

melbourneinstitute.unimelb.edu.au

References & Endnotes

Australian Bureau of Statistics (ABS) (2020a) "Understanding differences between Labour Force employment statistics and weekly payroll employment jobs", Labour Force, April, ABS Cat. No. 6202.0.

Australian Bureau of Statistics (ABS) (2020b) "People who lost a job or were stood down: flows analysis", Labour Force, May, ABS Cat. No. 6202.0.

Herault, N, J. Kabatek, G. Kalb and J. Meeks (2020) "Did JobSeeker and JobKeeper achieve their aims?, Research Insights, Melbourne Institute: Applied Economic and Social Research, June, 12/2020.

Tsiaplias, S. (2020) "How to reduce household financial stress during COVID-19?", Research Insights, Melbourne Institute: Applied Economic and Social Research, April, 05/2020.

Wilkins, R. (2020) "Who's hit hardest by the economic effects of COVID-19?", Research Insights, Melbourne Institute: Applied Economic and Social Research, May, 10/2020.

1 There are many ways to measure disadvantage at a community level and to distinguish between geographical locations in order to reflect community disadvantage. For this report, we have relied on the ABS SEIFA Index across SA4 regions in order to compare access to economic resources with our measure of financial vulnerability.

2 For the purposes of this report, we limit the use of survey data to the end of May in order to obtain a common sample period with ABS employment data. Furthermore, using survey data up to May, we focus exclusively on the lockdown period – the pace of easing of restrictions has varied across the states from June onwards thereby potentially influencing the analysis.

3 In regional areas, SA4s tend to have populations closer to the minimum (100,000 - 300,000). In metropolitan areas, the SA4s tend to have larger populations (300,000 - 500,000).

4 There are 89 SA4 regions but two do not have any respondents: Darwin SA4 code-701 and Other Territories SA4 code-901.

5 See information box on page 5 for how the level of access to economic resources in a statistical area is measured.

6 There is a high correlation (0.69) between the IER measure used here and the ABS Index of Relative Socio-Economic Disadvantage (ISRD).

7 For the weeks ending 14 March - when Australia recorded its 100th case - to 30 May. Payroll employment has some conceptual differences to employment reported in the Labour Force survey; see ABS (2020a). The payroll data are not seasonally adjusted.

8 Herault et al. (2020) use responses from the Consumer Attitudes, Sentiments and Expectations in Australia (CASiE) Survey to isolate the impacts of COVID-19 on the labour market.

9 These data are not seasonally adjusted. Outback Western Australia (North and South) are not included due to data limitations.

10 Transfer payments are likely to have mitigated some of the incidences of financial stress stemming from COVID-19 from loss of employment (JobSeeker) or working less hours (JobKeeper). The effectiveness of these measures is discussed in Herault et al. (2020).