Deloitte.
Access Economics

Analysis of the impact of raising benefit rates

Australian Council of Social Service

September 2018

Deloitte.
Access Economics

Deloitte Access Economics Pty Ltd
ACN 149 633 116
550 Bourke Street
Melbourne, VIC, 3000
Australia

Phone: +61 3 9671 7000
www.deloitte.com.au

4 September 2018

Dr Cassandra Goldie
Chief Executive Officer
Australian Council of Social Service
cassandra.goldie@acoss.org.au

Dear Cassandra,

Analysis of the impact of raising the rates of Newstart and other allowances rates

This report, commissioned by the Australian Council of Social Service (ACOSS), considers the impact of boosting a range of allowance payments. The proposed policy change is a 'catch up increase' of $75 a week – an extra $10.71 a day that would be received by around 770,000 Australians receiving the 'single rate' of one of these payments.

Our report finds that the introduction of such a policy would have a range of 'prosperity effects', boosting the size of the economy and the number of people employed in Australia. The latter effect would result in an additional 12,000 people being in work in 2020-21, though those effects would then fade over time.

The bigger impacts are 'fairness effects'.

Our analysis shows that the bulk of the dollars go to the lowest income quintile of households. Measured in dollar terms, the lowest quintile receives six times the dollars going to the highest income quintile.

That said, dollars aren't the best way to assess the impact on fairness. What matters is the relative impact of those extra dollars on disposable incomes. And, on that measure, the proportionate impact becomes fully evident. The lowest quintile would receive twenty eight times the relative boost to its disposable incomes than does the highest income quintile – an increase in income of 1.6% for the lowest quintile, versus 0.06% for the highest quintile.

Accordingly, any given dollar spent on this policy proposal would have a very tightly targeted fairness impact, with the overwhelming bulk of relative improvements in disposable incomes going to Australia's lowest income households.

There is also a relatively tight correlation between the least well-off districts across Australia (measured using the SEIFA index) and the boost to regional spending from this proposal, meaning that the regional economies most in need of help would receive it were this proposal to be enacted.

Yours sincerely

David Rumbens
Deloitte Access Economics Pty Ltd

Contents

Charts

Tables

Figures

Glossary

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
CPI	Consumer Price Index
DAE	Deloitte Access Economics
DAE-RGEM	Deloitte Access Economics' – Regional General Equilibrium Model
Economic growth	The expansion of production possibilities
HILDA	Household, Income and Labour Dynamics in Australia
Labour force	The sum of people who are employed and unemployed
Labour force participation rate	The share of those of working-age population who are in the labour force
LGA	Local Government Area
Long term unemployed	Persons unemployed for 12 months or longer
Metropolitan	Areas that are within capital cities
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
Regional	Areas outside of capital cities
Rural	The ABS defines rural areas as areas with populations of less than 1,000 people
SA	South Australia
SEIFA	Socio-Economic Indexes for Areas
Short term unemployed	Persons unemployed for less than 12 months
TAS	Tasmania
Unemployment rate	The percentage of people in the labour force who are unemployed
VIC	Victoria
WA	Western Australia
Working-age population	The total number of civilians aged 15 years and over

Executive Summary

Australia's aims

Key aims for Australia's economy and society can be summarised as 'prosperity and fairness'. These represent *'the size of the pie'* and *'how the pie is sliced up'*.

This report, commissioned by the Australian Council of Social Service (ACOSS), considers the impact on both prosperity and fairness of boosting a range of allowance payments.

The proposed policy change is a 'catch up increase' of $75 a week – an extra $10.71 a day for more than 770,000 people: the least well off in Australian society.[1]

Australia's challenge

The gap between the living standards of average Australians and those who are on these allowances has widened sharply over the past quarter of a century. And it continues to widen.

That wasn't an accident: it was what policy has been geared to do.

A key driver of average living standards is wages. But these allowances examined in this analysis are indexed to prices rather than wages. And that's a problem because, over time, wages grow faster than prices. Accordingly, the nation's policy settings ensure that those Australians who are on allowances have seen their living standards squeezed relative to average living standards.

The impact on Australia's economy

Lifting these allowances would have both prosperity and fairness impacts.

The fairness impacts dominate, but there are prosperity points to consider too. Deloitte Access Economics used our *Horizon* macroeconometric model of the Australian economy to model a lift in allowances that is effective immediately. The direct cost of the Federal budget is about $3.3 billion a year:

- In nominal dollars, the size of the Australian economy ("the prosperity dividend") would lift by some $4.0 billion[2] as a result of that extra spending, meaning that the size of the economy initially increases broadly in line with the initial income injection of $3.3 billion.
- That's because several factors offset. Among the negatives:
  - Most notably, some of the extra spending by beneficiaries would be on imports.
  - And a modest increase in the value of the Australian dollar would weigh on exports.
  - While, similarly, interest rates would also be a little higher than otherwise. Among other things, that would see fewer new homes being built (as well as less done by way of renovating old homes).
- Among the positives:
  - That money goes as extra income to a group that, on average, is the poorest of the poor in Australia. Other things equal, most of it is therefore spent. So it's no surprise that the bulk of the dollars – some $3.3 billion a year – show up as extra spending by consumers.
  - And while imports would go up, the bulk of the extra spending by beneficiaries would be spent at home. That extra spending would create some 12,000 extra jobs. And the accompanying strength in the market for workers would lift wages. (Prices would also be a little higher, but the increase in wages would outweigh that in prices.)

[1] Deloitte Access Economics has also separately noted the strong case for raising Newstart and Youth Allowance in the latest (May 2018) issue of our *Budget Monitor* publication, though the specifics of what we proposed differ from those examined here.

[2] The results quoted here are the difference in financial year 2020-21 outcomes between two different scenarios: one in which these benefits are raised, and a 'baseline' scenario in which the benefits aren't increased by $75 a week.

  - Total wages being paid to Australians would therefore lift by around 0.2%. Similarly, the stronger economy would boost corporate profits, with that latter boost also running at close to 0.2%.
  - Finally, the stronger economy (more jobs, higher wages, stronger profits) would mean that the Federal Government would raise an extra $1.0 billion in taxes, while State and Territory Government revenues would increase by some $0.25 billion.

- But the boost to the economy would tend to fade over time. That's because the impact of the increases to interest rates and exchange rates would gradually rise over time. More importantly still, this policy change comes at a cost to the Federal Budget, and the modelling assumes that – over time – taxes lift so that the debt levels of the Australian government return to where they'd otherwise be.
- The combination of those factors – very slight increases in taxes, interest rates and exchange rates that occur over time – thereby gradually return the Australian economy back closer towards the path it was otherwise on (the baseline scenario).
- As a simple example of the impact of that, the net number of additional jobs created by this change in policy – which stood at 12,000 extra jobs in 2020-21 – is estimated to slip back to around 4,400 by 2024-25, and to be less than 500 extra workers by 2029-30.

That fading strength in the "prosperity positives" is no surprise. Some of the gains to the "size of the pie" are generated by dipping into the Federal Budget to pay for higher allowances. The net cost of that to Australian taxpayers is gradually clawed back via higher taxes and, as noted, the stronger economy also shows up in higher interest and exchange rates.

Or, to put that another way, the prosperity benefits fade over time, but the most compelling reasons to adopt this reform revolve more around fairness than they do around prosperity.

And it is important to note that it is possible that the modelling understates the extent of the prosperity benefits.

Most notably, it is important that these dollars would flow to the poorest of the poor in Australia.

There is a significant body of evidence that higher incomes for the unemployed and other groups who are disadvantaged may lead to better national outcomes on indicators such as health. That is, there are many additional social costs involved with entrenched disadvantage, and those costs are alleviated as the cycle of disadvantage is broken. It is beyond the scope of this exercise to account for the reduction in those broader social costs, but there is a growing body of research in this area.

Finally, the economic literature has increasingly identified inequality as a factor that can directly weigh on prosperity. For example, research by the IMF indicates that:

- Nations with greater levels of inequality tend to have lower economic growth over time (in the language used in this report, failures on fairness can limit success on prosperity); while
- The worse is inequality in a nation, then the shorter are its spells of high economic growth.

The upshot is that the results in this report are likely to be conservative: the "prosperity dividend" could be both larger and longer-lived than these results have it.

The impact on fairness

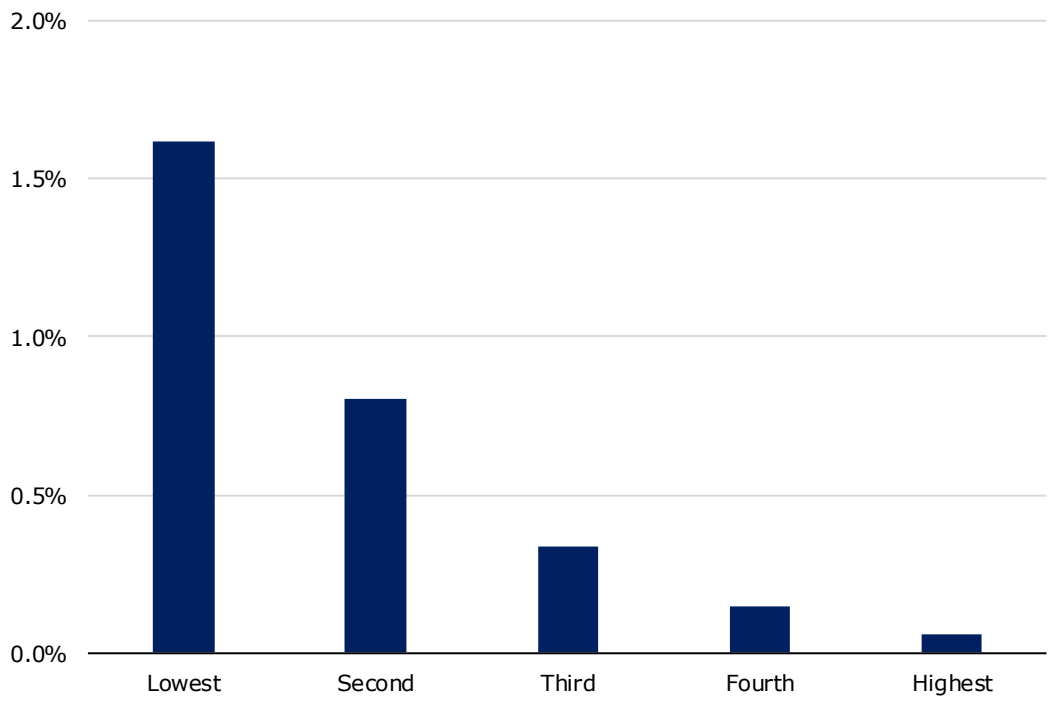
The two largest fairness levers in Australia are (1) cash benefits and (2) the operation of the education and health systems. This report considers the impact of potential increases focussed on the 'unemployment and study payments' category of cash benefits.

Our analysis shows that the bulk of the dollars go to the lowest income quintile of households. Measured in dollar terms, the lowest quintile receives six times the dollars going to the highest income quintile.

That said, dollars aren't necessarily the best way to assess the impact on fairness. What matters is the relative impact of those extra dollars on disposable incomes.

And, on that measure, the proportionate impact becomes fully evident. As the chart below shows, the lowest quintile would receive twenty-eight times the relative boost to its disposable incomes than does the highest income quintile – an increase in income of 1.6% for the lowest quintile, versus 0.06% for the highest quintile.

Chart i: Increase in household disposable incomes, equivalised quintiles, %



Source: Deloitte Access Economics, ABS Cat No. 6523.0

Accordingly, any given dollar spent on this policy proposal would have a very tightly targeted fairness impact, with the overwhelming bulk of relative improvements in disposable incomes going to Australia's lowest income families.

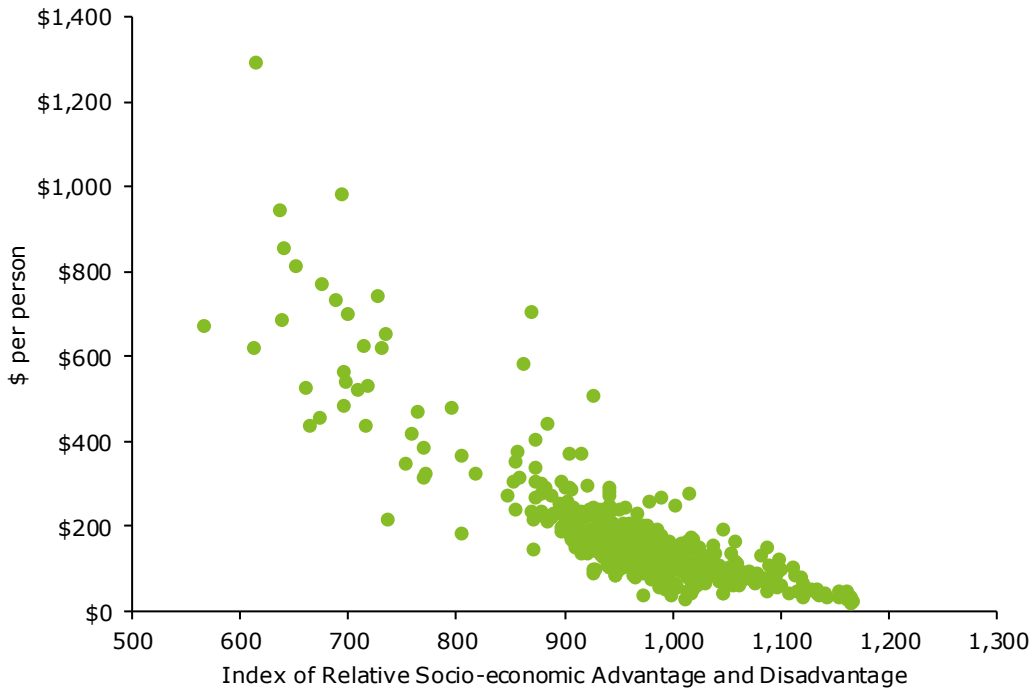
That illustrates the fairness strengths of the current proposal.

Regional impacts

The different types of allowances that would be raised have different regional profiles. That said, the bulk of the impact would be through increased Newstart allowance, and the regional distribution of those allowances would boost both the prosperity and fairness impacts discussed above.

From a prosperity viewpoint, unemployment in Australia is relatively higher outside our largest cities and towns. Other things equal, this means that relatively more of the increased spending flowing from higher allowances would tend to stay in Australia, being spent on locally produced products and local labour.

Chart ii: Increase in regional income per head, mapped against regional SEIFA scores



Source: Deloitte Access Economics; ABS.stat database
Note: SEIFA score is based on an index of relative socio-economic advantage and disadvantage. The higher the index value the more advantaged a region is relative to other regions. Data is from 2016.

From a fairness viewpoint, there is a tight correlation between the least well-off districts across Australia (measured using the Socio-Economic Indexes for Areas (SEIFA) index) and the boost to regional income from this proposal, meaning that the regional communities most in need of help would receive it were this proposal to be enacted.

Deloitte Access Economics

1 Background

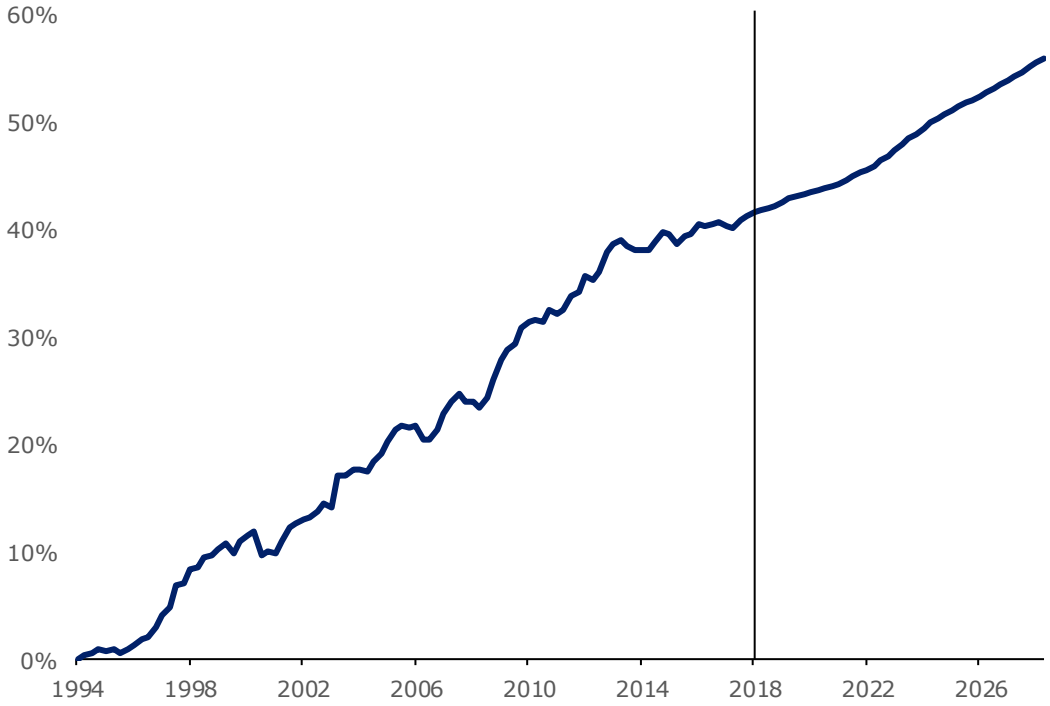
The material below mostly focusses on Newstart recipients, who make up the bulk of those[3] who would receive the additional payment of $75 a week.

1.1 The inadequacies of Australian indexation arrangements

In brief, the case for lifting a range of allowances paid by the Federal Government – notably including the Newstart allowance received by the unemployed – is that:

- They haven't risen in line with national living standards for a quarter of a century. That's because they are indexed to prices rather than wages. Yet living standards are dominated by wages, and wages grow faster than prices over time (as workers become better educated, and as companies invest in better equipment for their workers).
- So Newstart has shrunk as a share of:
  - average wages,
  - median wages,
  - the minimum wage, and
  - the age pension.
- And it is set to shrink even further, given that it continues to be indexed to prices rather than wages. As a result, and despite being focussed on tax, the Henry Review specifically noted the collapsing ratio between Newstart and the single rate of age pension.

Chart 1.1: Wage growth relative to price growth since 1994, including forecasts



[3] Other beneficiaries of the $75 per week increase include single recipients of Youth Allowance (student and apprentice) Youth Allowance (Other) (both away from home rates), Newstart (single parent rate), Austudy, Abstudy, Sickness Allowance, Special Benefit, Widow Allowance.

Source: Deloitte Access Economics; ABS Cat No. 6302.0, 6401.0

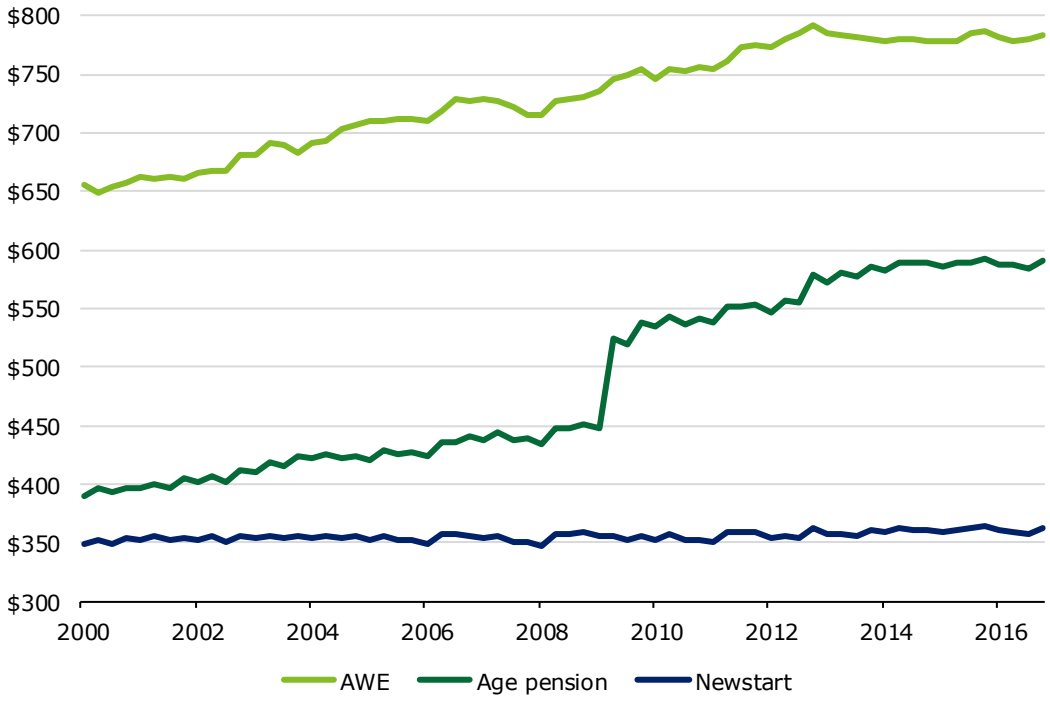
Let's step through that in more detail. Chart 1.1 shows that, over time, wages grow faster than prices. Across the last quarter of a century (the then Federal Government raised unemployment allowances in 1994), wages have risen 40% faster than prices – a trend that's set to continue.

Accordingly, if your income rises with prices, but the incomes of the rest of society rise with wages, then your living standards are set to sink relative to national averages.

This difference in generosity is a policy choice. The incomes of pensioners and most other beneficiaries are benchmarked to wage growth, but those on working age payments aren't as lucky. This has seen a growing divergence between average earnings, the pension and Newstart grow over time (as may be seen in Chart 1.2).

For example, while the age pension has doubled in real terms since 2000, Newstart has barely budged.

Chart 1.2: Average wages, the pension and Newstart over time in 2000-01 $ terms



Source: Commonwealth Treasury; ABS Cat No. 6302.0, 6401.0; Deloitte Access Economics.
Note: series are deflated by the CPI and are in 2000-01 dollars. AWE is average weekly earnings

As Chart 1.3 shows, the resultant relativities are stark. At just $272.90 for a single person each week[4], Newstart is the equivalent to living on $38.99 a day. Even adding in the maximum rent assistance and the energy supplement, a single person with no children has to live on around $49.24 a day.

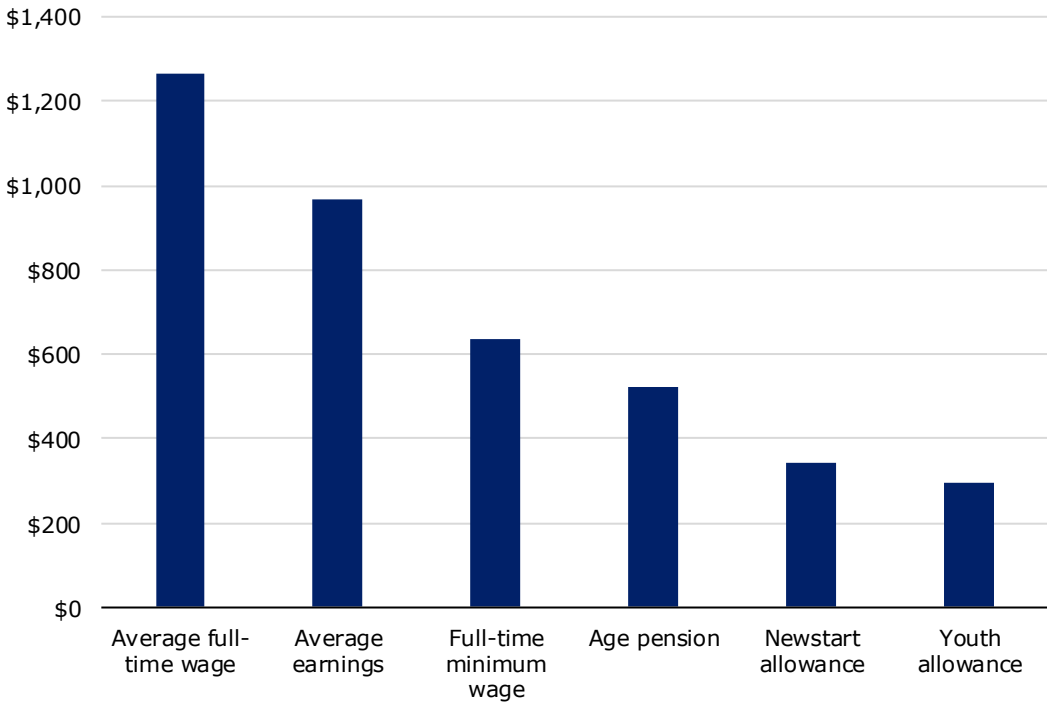
For an Australian under 22, that figure becomes $41.97 a day[5]. (Unemployed young people under 22 aren't provided the same level of assistance as those 22 and older, regardless of their living arrangements and capacity for family support.)

[4] As at 20 March 2018 http://guides.dss.gov.au/guide-social-security-law/5/1/8/20
[5] This includes the 'away from home' maximum basic rate, the full amount of rent assistance and the energy supplement.

The end result is that a person on Newstart lives on around 36% of the average wage after tax and a little more than half of what someone working full-time on the minimum wage[6].

For the single age pension these ratios are 54% and 82% respectively.

Chart 1.3: Dollars per week – the relativities



Source: Department of Social Services; Fair Work Australia; ABS Cat No. 6302.0; Deloitte Access Economics.
Note: Full-time minimum wage is for a 38 hour week; social security payments include full rent assistance.
All reported income amounts are after personal income tax.

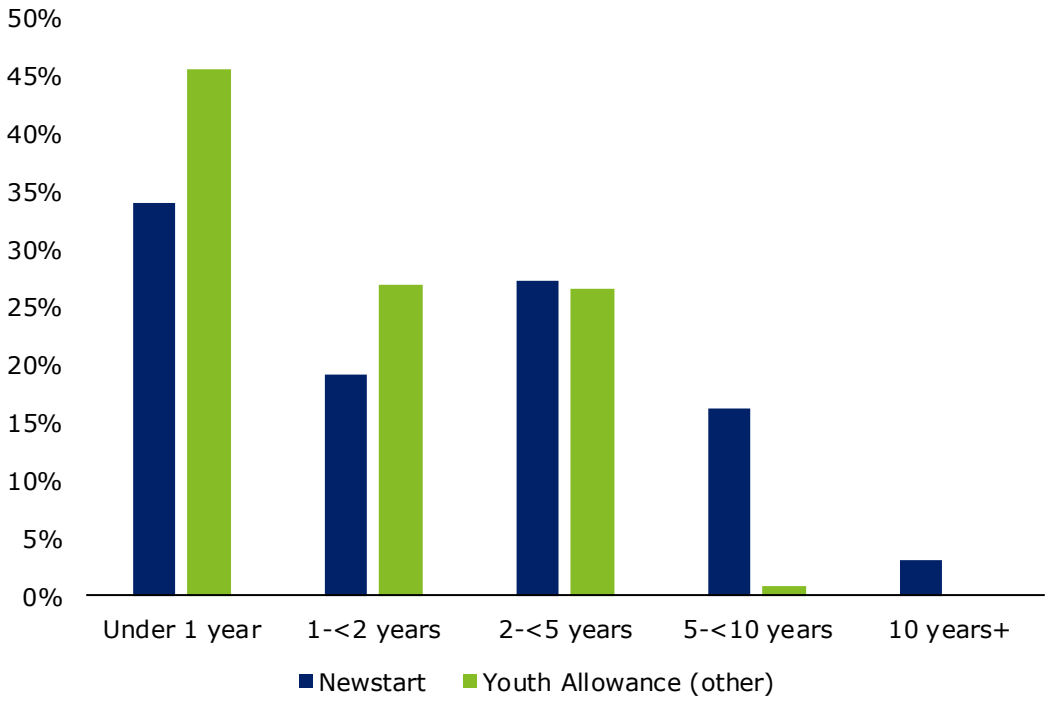
1.2 For many, being on allowances is far from temporary

Benchmarking payments to prices rather than wages would be less of an issue if these payments were still doing the job that they were designed to do – acting as a stopgap measure to help unemployed Australians get by while they find paid work. As the Centrelink website states, Newstart allowance is *"the main income support payment while you're unemployed and looking for work."* It was designed to supplement other savings which would help unemployed Australians and their families through periods of unemployment.

Yet a significant number of recipients spend longer and longer on these payments. Chart 1.4 shows that, for many recipients, being on unemployment allowances is not a temporary state. Nearly half of Newstart recipients and a quarter of Youth Allowance recipients have been on their respective payments for at least two years. There are also a number of Youth Allowance recipients who simply transition from Youth Allowance to Newstart when they turn 22.

[6] Based on a 38 week at the 2017-18 minimum wage, after personal income tax.

Chart 1.4: Share of Newstart and Youth Allowance recipients by time on payment



Source: Department of Social Services

1.3 Do allowances encourage people to be unemployed?

It would be nice if unemployment were temporary. But for many it isn't. And nor is that because these payments are encouraging people to be 'dole bludgers'.

To be clear, economists do see the potential for a problem here: if unemployment allowances are close to the wages that you'd earn in a job, then they could tempt people to choose to stay out of work.

But that's almost the opposite of the situation here in Australia.

Australia has:

1. very low Newstart payments, at the same time as we have
2. high wages and, by global standards,
3. high minimum wages compared with other countries in the OECD.

That combination tells you that the underlying causes of long term welfare dependency are a larger and more complicated policy and societal failure – one that cannot be adequately addressed on these pages. Yet that doesn't diminish the point that the existing rate of working age payments are too low.

1.4 How many people are on Newstart?

About 700,000 people. Newstart accounts for about one-twentieth of all DSS payments (ABSTUDY, the age pension, Austudy, carer payment, disability support pension, Newstart, the parenting payment, partner allowance, sickness allowance, special benefit, widow allowance and youth allowance).

A total of 752,430 people were receiving Newstart payments as of December 2017, a 0.9% decrease from the previous year. Newstart recipients account for 4.8% of total payment recipients – unchanged since December 2013. *Note: In January 2013, there was a large, one-off increase due to the cessation of the grandfathering provisions for Parenting Payment recipients who had been on the*

payment prior to 1 July 2006 and had a youngest child aged 6 years or over (for partnered) or 8 years (for single). Eligible recipients were transferred to Newstart.

Table 1.1: Newstart allowance recipients over time

	Number of Newstart recipients	% growth in Newstart recipients	Newstart recipients as a share of all payment type recipients
Dec-13	683,386	-	4.8%
Dec-14	727,778	6.5%	5.0%
Dec-15	753,291	3.5%	5.1%
Dec-16	759,292	0.8%	5.2%
Dec-17	752,430	-0.9%	4.8%

Note: all payment types include ABSTUDY, the age pension, Austudy, carer payment, disability support pension, Newstart, the parenting payment, partner allowance, sickness allowance, special benefit, widow allowance and youth allowance
Source: DSS Payment Demographic Data Dec-13 to Dec-17.

1.5 Where do Newstart recipients live?

In all States and Territories. Relative to their respective populations, you are less likely to be on Newstart in the ACT, and more likely in the Northern Territory and Tasmania

At December 2017, the States with the highest proportion of Newstart recipients relative to their populations were the Northern Territory, Tasmania and South Australia.

Table 1.2: Newstart recipients by State

	Number of Newstart recipients	Share of total Australian Newstart recipients	Share of total Australian population	Newstart share relative to population share
Australian Capital Territory	6,271	0.8%	1.7%	47%
New South Wales	207,495	27.6%	32.0%	86%
Northern Territory	15,154	2.0%	1.0%	200%
Queensland	171,108	22.7%	20.0%	114%
South Australia	67,982	9.0%	7.0%	129%
Tasmania	22,475	3.0%	2.1%	143%
Victoria	174,154	23.1%	25.7%	90%
Western Australia	87,659	11.7%	10.5%	111%
Unknown	132	0.0%	-	47%
Total	**752,430**	**100.0%**	**100%**	**3.3**

Source: DSS Payment Demographic Data Dec-17.

Table 1.3: Newstart recipients by ABS Statistical Area 2 (top 20)

SA2 name	State	Number of recipients	Share of total Newstart recipients
Craigieburn - Mickleham	Victoria	2,369	0.31%
Corio - Norlane	Victoria	2,205	0.29%
Liverpool - Warwick Farm	New South Wales	2,142	0.28%
Dandenong	Victoria	1,942	0.26%
Fairfield	New South Wales	1,887	0.25%
Caboolture	Queensland	1,794	0.24%
Mildura	Victoria	1,758	0.23%
Balga - Mirrabooka	Western Australia	1,694	0.23%
Southport	Queensland	1,658	0.22%
Whyalla	South Australia	1,658	0.22%
Armadale - Wungong - Brookdale	Western Australia	1,642	0.22%
Inala - Richlands	Queensland	1,638	0.22%
Berkeley - Warrawong - Windang	New South Wales	1,618	0.22%
Cabramatta - Lansvale	New South Wales	1,602	0.21%
Werribee	Victoria	1,595	0.21%
Salisbury	South Australia	1,532	0.20%
Bankstown	New South Wales	1,507	0.20%
Davoren Park	South Australia	1,499	0.20%
Enfield - Blair Athol	South Australia	1,431	0.19%
Epping	New South Wales	1,421	0.19%

Source: DSS Payment Demographic Dec-17.

1.6 How old are Newstart recipients?

Newstart is available to those who are over the age of 22 but under pension age. Recipients aged between 35 and 64 account for more than two-thirds of all Newstart recipients.

Table 1.4: Newstart recipients by age, Dec-17

	Number of Newstart recipients	Share of total
21-24	67,086	9%
25-34	158,943	21%
35-44	167,694	22%
45-54	175,306	23%
55-64	172,989	23%
65 and over	10,412	1%
Total	**752,430**	100%

Source: DSS Payment Demographic Data Dec-17.

1.7 How long do people stay on Newstart?

More than one third of Newstart recipients are on the payment for less than one year, compared to just one in every eight (13%) of recipients across all payment types.

That said, 46% of Newstart recipients are on the payment for more than two years.

Table 1.5: Duration on payments

	Under 1 year	1 to 2 years	2 to 5 years	5 to 10 years	More than 10 years	Average duration on payment (weeks)
Newstart						
Number of recipients	257,966	144,995	225,871	101,041	22,557	146
% share of total	34%	19%	30%	13%	3%	
All payment types						
Number of recipients	664,897	505,735	1,045,385	1,091,462	1,625,603	250
% share of total	13%	10%	21%	22%	33%	

Note: all payment types include ABSTUDY, the age pension, Austudy, carer payment, disability support pension, Newstart, the parenting payment, partner allowance, sickness allowance, special benefit, widow allowance and youth allowance
Source: DSS Payment Demographic Data Dec-17.

1.8 Do people work while on Newstart?

Almost one fifth of all people receiving Newstart recorded some earnings, compared with less than 10% of recipients across all payment types.

Table 1.6: Earnings from employment in last fortnight (% share), Dec-17

	No earnings	Had earnings	> $0 to < $100	*$100 to < $250*	*$250+*
Newstart	80%	20%	*4%*	*14%*	*82%*
All payment types	90%	10%	*5%*	*16%*	*79%*

Note: all payment types include ABSTUDY, the age pension, Austudy, carer payment, disability support pension, Newstart, the parenting payment, partner allowance, sickness allowance, special benefit, widow allowance and youth allowance
Source: DSS Payment Demographic Data Dec-17.

2 The impact on Australia's Budget and economy

Lifting these allowances would have both prosperity and fairness impacts.

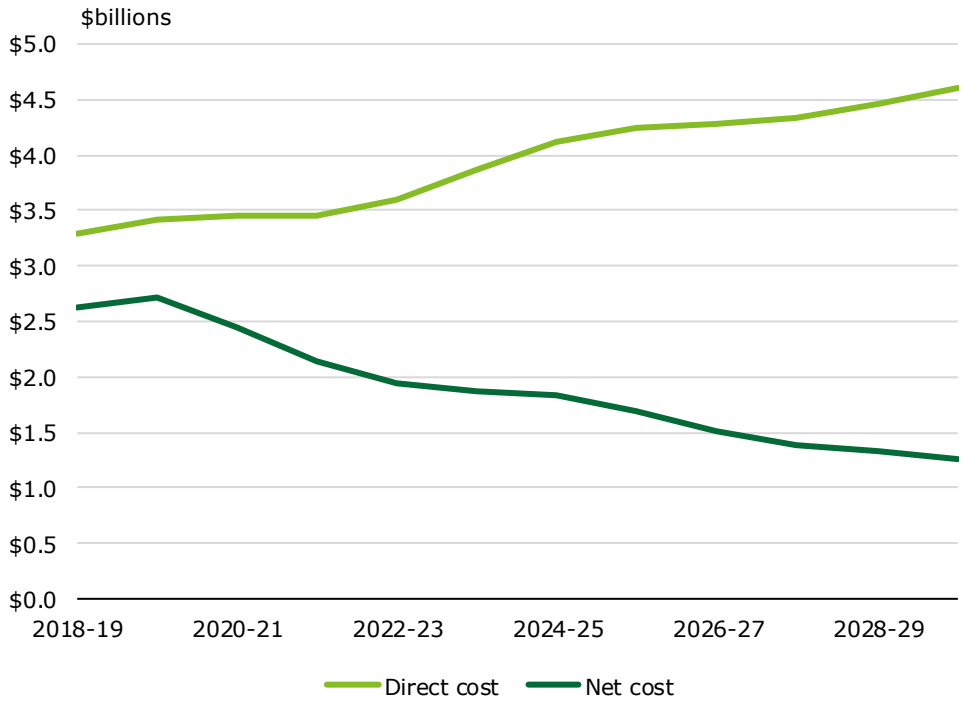
The fairness impacts dominate (and are discussed in the next chapter), but there are prosperity points to consider too.

Deloitte Access Economics used our *Horizon* macroeconometric model of the Australian economy (discussed in Appendix A) to model a lift in allowances that is effective immediately.

2.1 Estimating the cost to Federal Government coffers

We modelled an increase of $75 a week for single recipients of Austudy, Newstart allowance, Sickness allowance, Special Benefit, Widow Allowance and Youth Allowance (student/apprentice and other, away from home rates). As at 30 March 2018[7], there were around 770,000 Australians receiving the 'single rate' of one of these payments. The number of payment recipients are projected forward accounting for changes in the economy and population size/structure.

Chart 2.1: Estimated cost, $billions



Source: Deloitte Access Economics estimates

The direct cost of that to Federal coffers is about $3.3 billion a year[8]. However, some of that – around a quarter initially – is recovered through an increased tax take due to the larger economy. Over time,

[7] Department of Social Services demographics data, March 2018. Available at https://data.gov.au/dataset/dss-payment-demographic-data/resource/c9bcd6ed-b6bd-423b-abc5-86b54bd7a591

[8] The analysis assumes that the increase in the payment amount is restricted to single recipients.

the net cost to the government declines due to 'bracket creep' from increased inflation (discussed below) offsetting the increase in payment growth due to indexation (Chart 2.1).

Most of the dollar cost associated with policy change comes about from providing each current recipient with an extra $75 a week. A smaller share of the overall cost is due to the increase in eligibility as the larger payment makes those who currently earn enough income to be income tested off the payment become eligible for a part-payment.

2.2 Impacts on the Australian economy

Summary impacts

There are three different ways to measure what's happening in the Australian economy – the incomes being earned, the money being spent, and the industries affected.

In brief, and in terms of outcomes in 2020-21, the **income effects** are broadly similar, with the national wage bill and corporate profits rising by similar proportions. Within the wage bill, there are positives coming from both jobs and from wages (measured net of the increase in prices – real wages are higher).

In relative terms the largest **spending increases** are in private consumption, but there is also a smaller positive recorded in business investment. However, there are negatives in imports (that is, imports go up), exports and housing construction.

By industry, there are modest negatives for **sectors affected** by the stronger interest rates (construction) and exchange rates (manufacturing and farming – though mining also doesn't do well). That said, all other industries benefit.

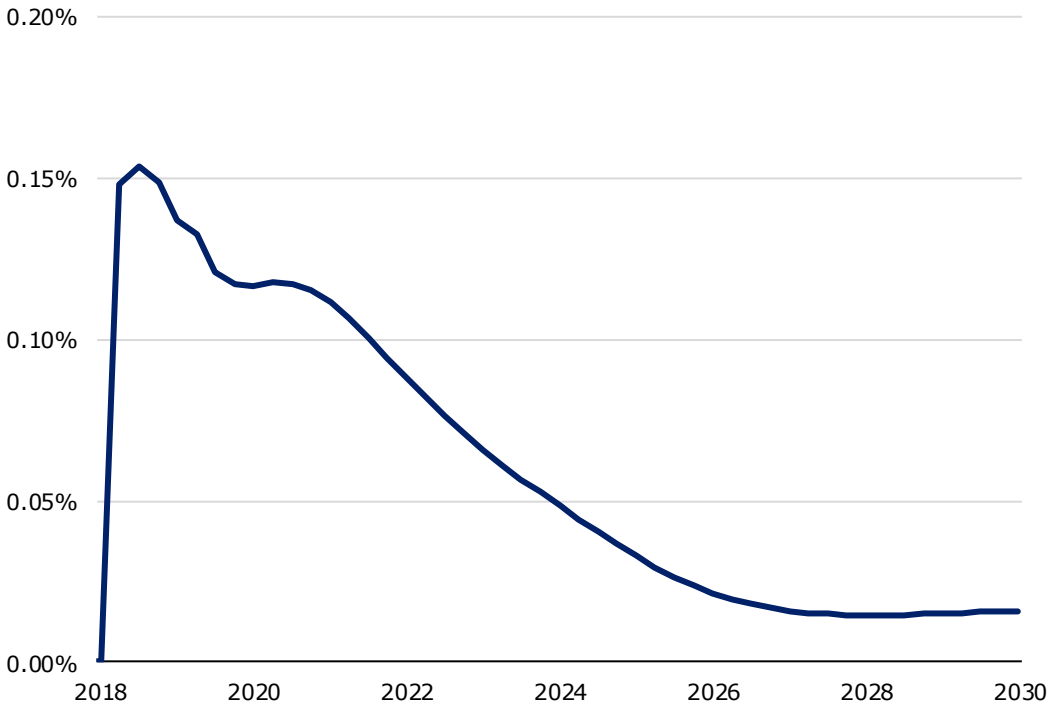
The results indicate that the nominal dollar size of the Australian economy ("the prosperity dividend") would lift by some $4.0 billion[9] as a result of that extra spending, meaning that the size of the economy initially increases pretty much dollar for dollar alongside the initial income injection of $3.3 billion.

Part of that increase in nominal GDP simply reflects higher prices, as increased spending in the economy boosts the CPI as well as real activity. But there is an increase in real GDP as well, as may be seen in Chart 2.2.

(Note that the charts here are given as 'deviations from baseline'. That is, they indicate the changes in economic outcomes in Australia were allowance increases to be enacted.)

[9] Unless otherwise noted, the results quoted here are the difference in financial year 2020-21 outcomes between two different scenarios: one in which these benefits are raised, and a 'baseline' scenario in which the benefits aren't increased by $75 a week.

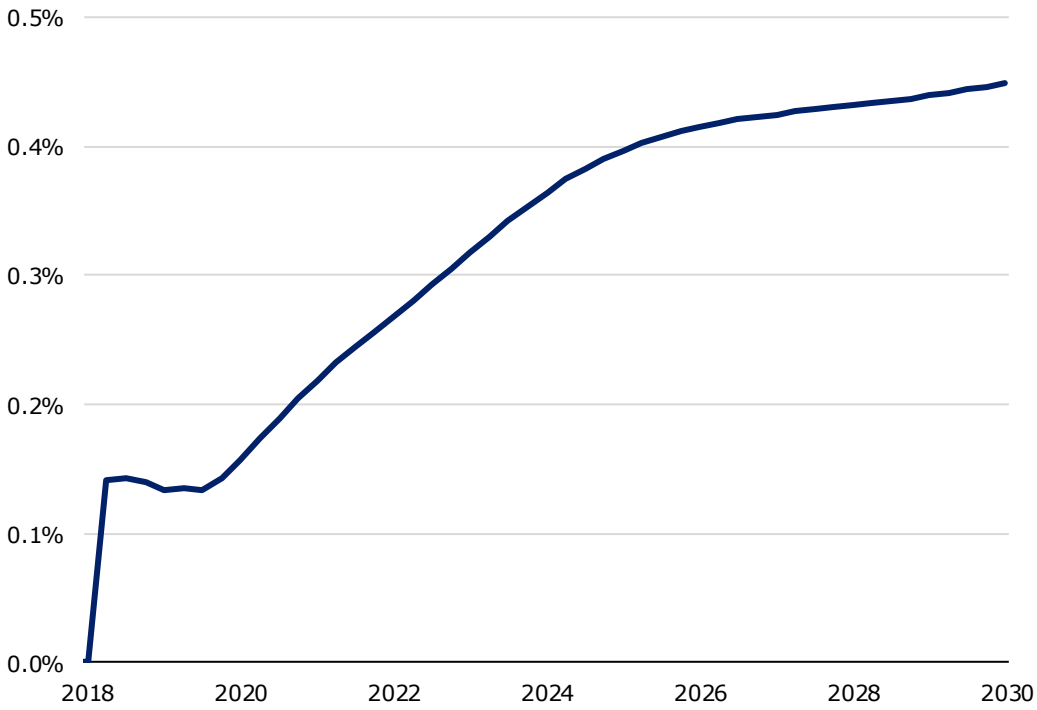
Chart 2.2: Real GDP, % deviation from baseline



Source: Deloitte Access Economics Horizon model

The boost to nominal GDP (seen in Chart 2.3) roughly equals the direct cost to the Federal Government of increasing allowances. That is because several factors affect the economy in offsetting directions.

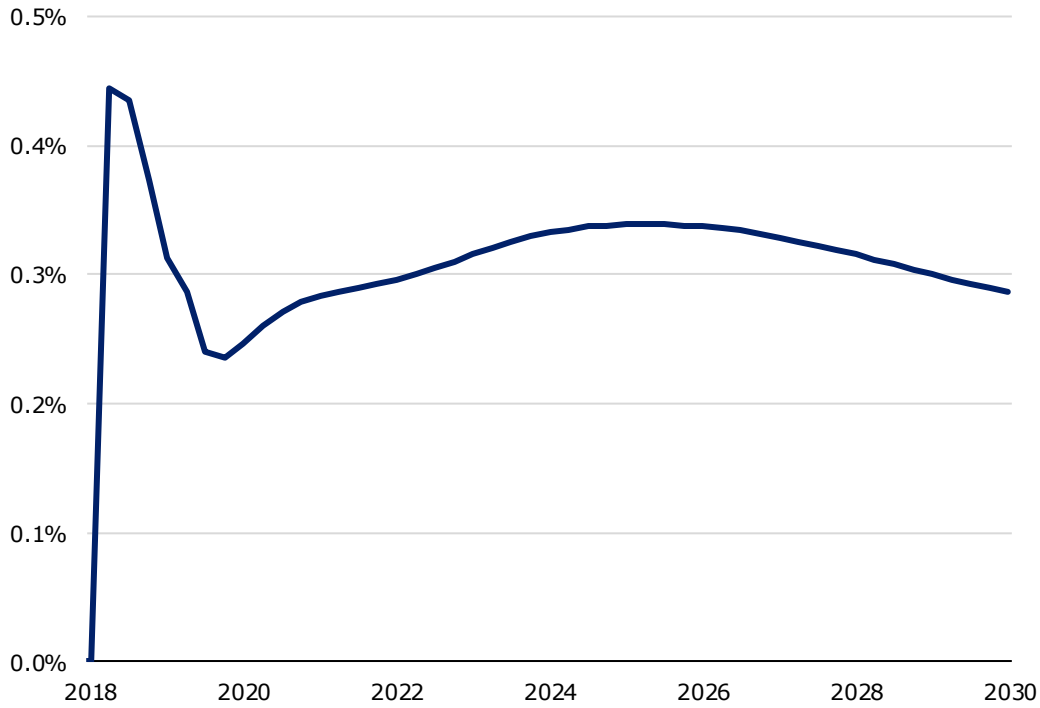
Chart 2.3: Nominal GDP, % deviation from baseline



Source: Deloitte Access Economics Horizon model

Among the negatives, most notably, some of the extra spending by beneficiaries would be on imports – see Chart 2.4.

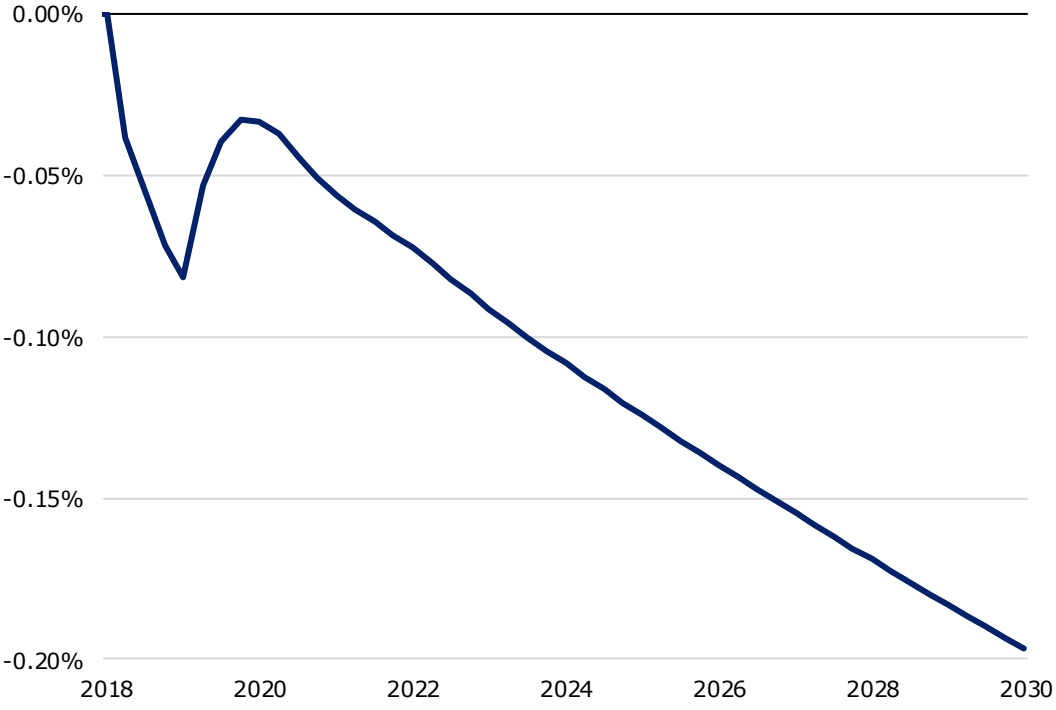
Chart 2.4: Real imports, % deviation from baseline



Source: Deloitte Access Economics Horizon model

At the same time, a modest increase in the value of the Australian dollar would weigh on exports, which would fall in real terms (that is, the quantity of exports would go down) – see Chart 2.5.

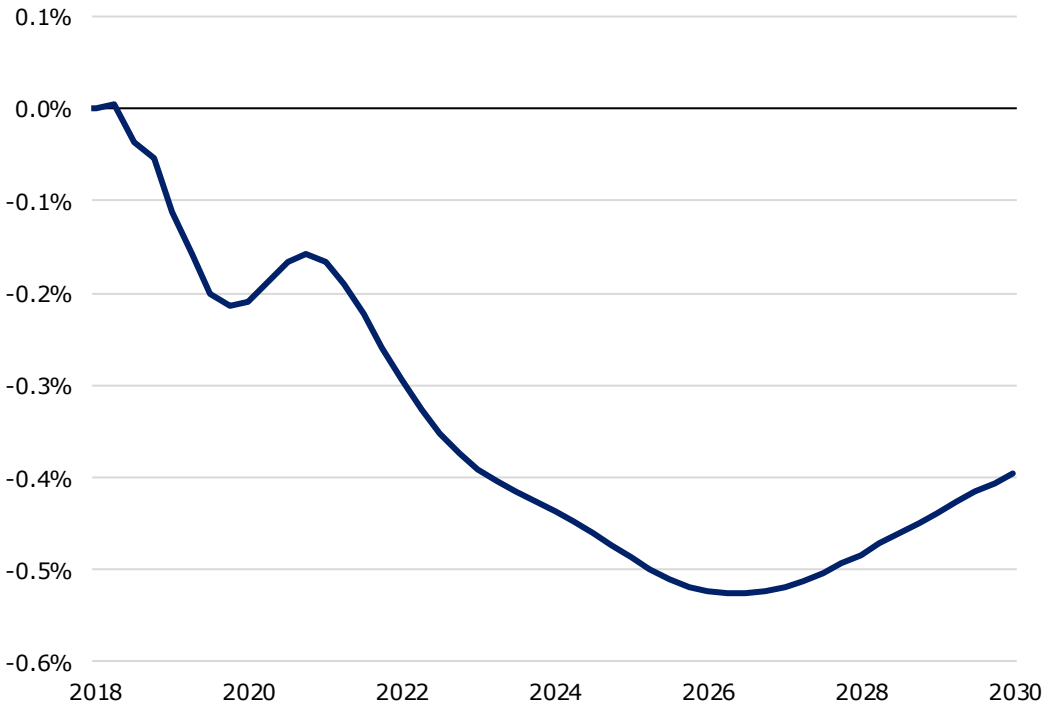
Chart 2.5: Real exports, % deviation from baseline



Source: Deloitte Access Economics Horizon model

Similarly, interest rates would also be a little higher than otherwise. Among other things, that would see fewer new homes built (as well as less done by way of renovating old homes) – see Chart 2.6.

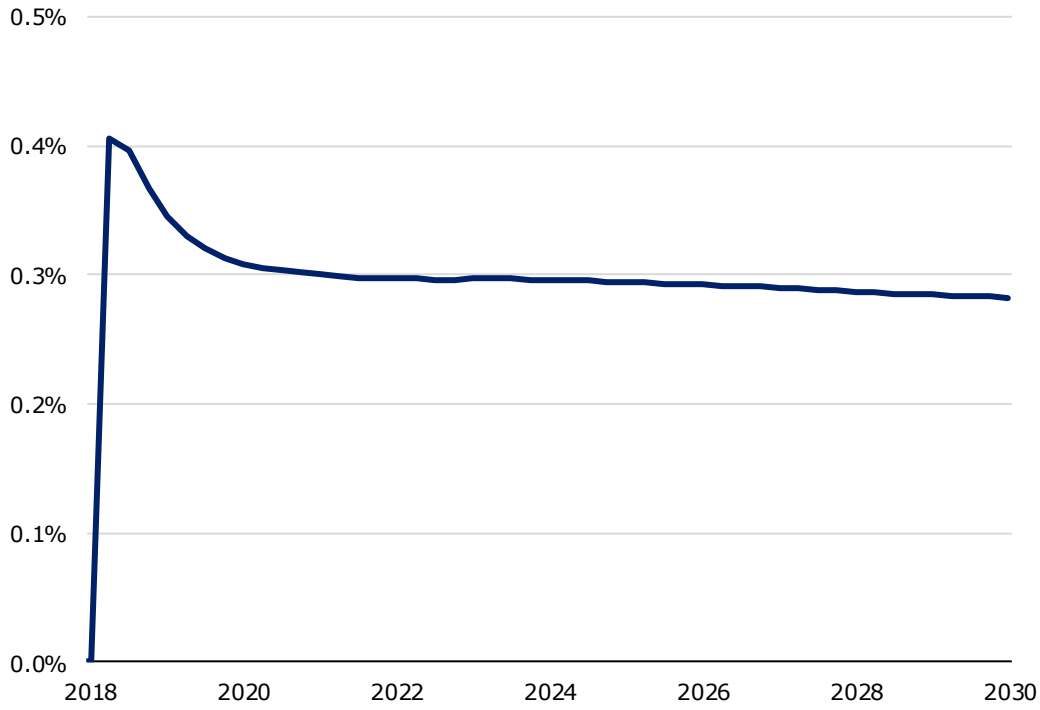
Chart 2.6: Real housing investment, % deviation from baseline



Source: Deloitte Access Economics Horizon model

Among the positives, the additional allowances would go as extra income to a group that, on average, is the poorest of the poor in Australia. Other things equal, most of it is therefore spent. So it's no surprise that the bulk of the dollars – some $3.3 billion a year – shows up as extra spending by consumers.

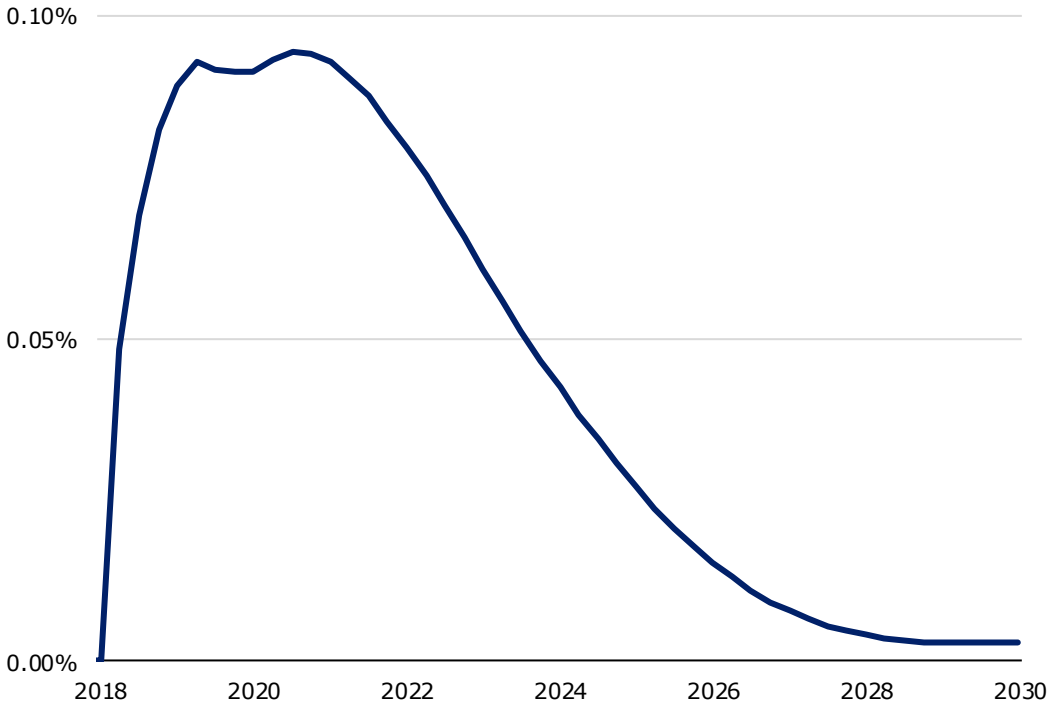
Chart 2.7: Real consumer spending, % deviation from baseline



Source: Deloitte Access Economics Horizon model

And while imports would go up, the bulk of the extra spending by beneficiaries would be spent at home. That extra spending would create some 12,000 extra jobs (seen in Chart 2.8).

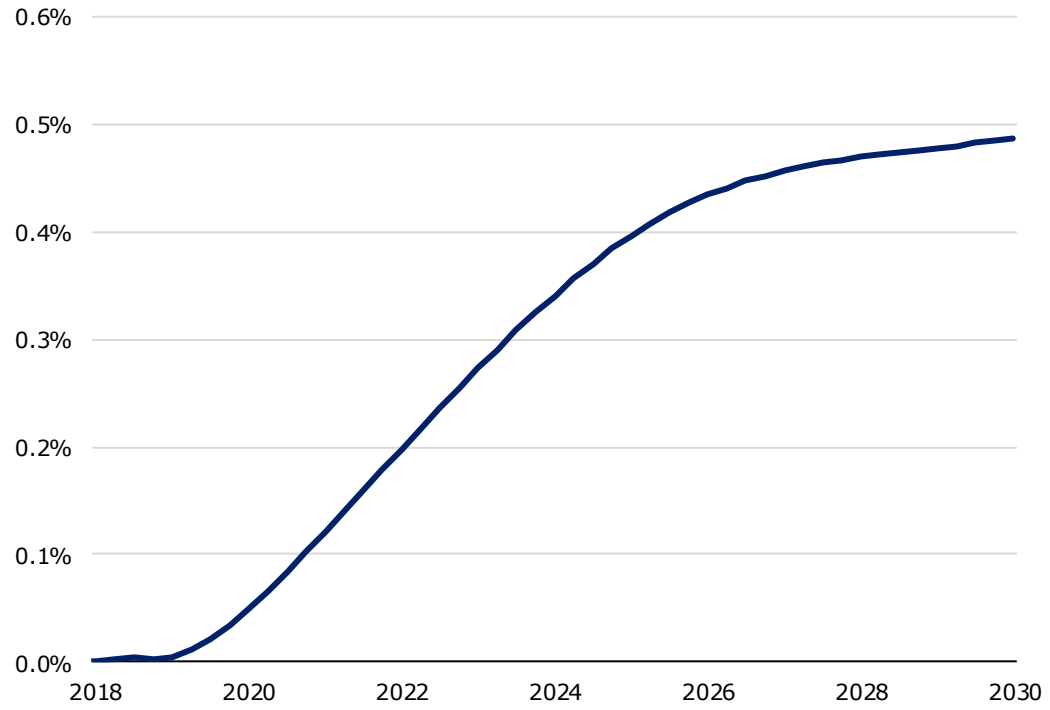
Chart 2.8: Jobs, % deviation from baseline



Source: Deloitte Access Economics Horizon model

And the accompanying strength in the market for workers would lift wages (seen in Chart 2.9).

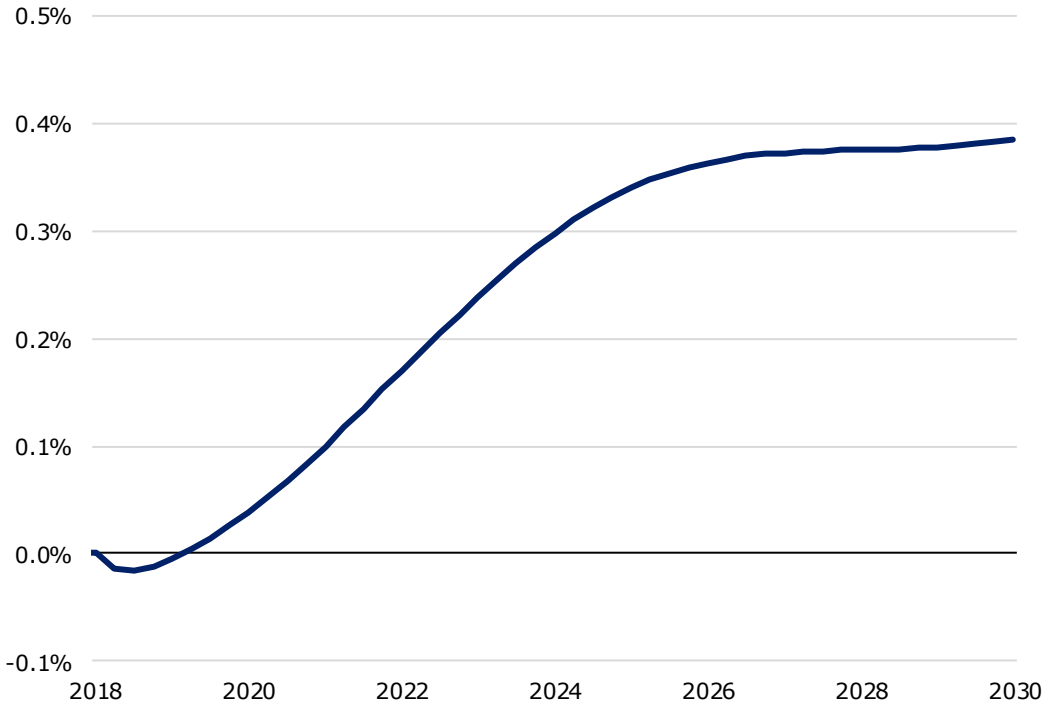
Chart 2.9: Average weekly earnings, % deviation from baseline



Source: Deloitte Access Economics Horizon model

(Prices would also be higher, but the increase in wages would outweigh that in prices – see Chart 2.10.)

Chart 2.10: Consumer prices, % deviation from baseline



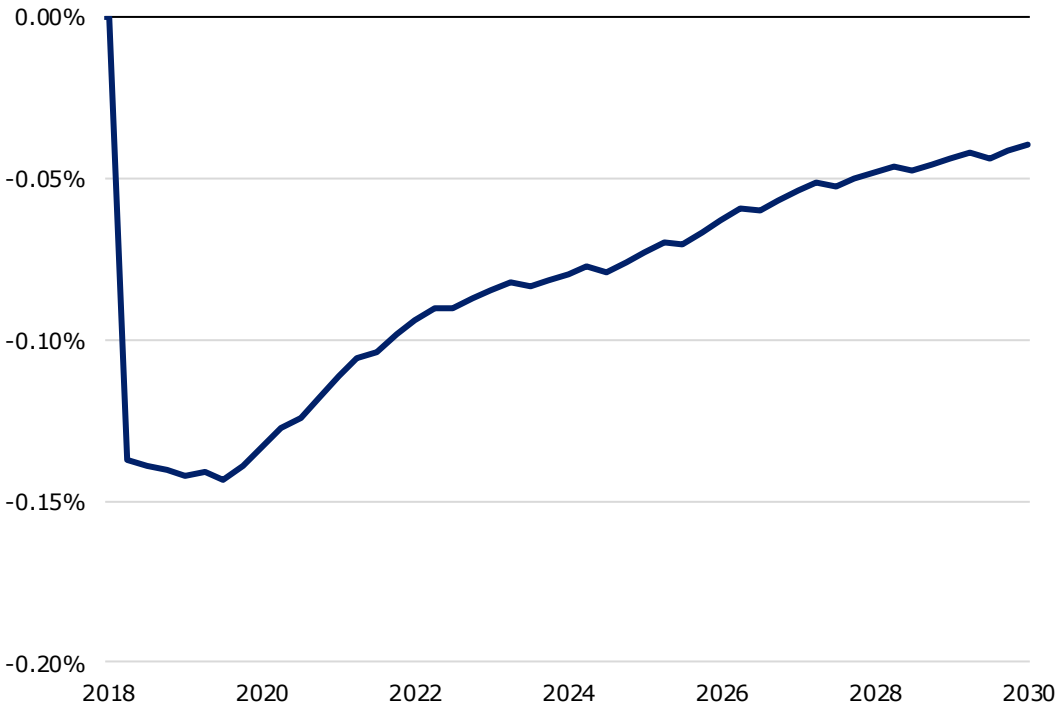
Source: Deloitte Access Economics Horizon model

Total real wages being paid to Australians would therefore lift by around 0.2% in 2020-21 (partly thanks to more jobs, and partly as wage gains exceed price increases). Similarly, the stronger economy would boost corporate profits, with that latter boost also running at close to 0.2%.

Finally, the stronger economy (more jobs, higher wages, stronger profits) would mean that the Federal Government would raise about an extra $1.0 billion in taxes, while State and Territory Government revenues would increase by some $0.25 billion.

Chart 2.11 shows the net cost to the Federal budget as a share of national income – that is, the direct cost of extra allowances, less the savings from extra tax generated.

Chart 2.11: Net cost to the Federal Budget - % of national income



Source: Deloitte Access Economics Horizon model

(As the next section of the report notes, the model independently acts to boost the tax take over time so as to ensure that the policy change has no impact on Federal fiscal sustainability. Both Chart 2.1 and Chart 2.11 exclude these latter impacts.)

2.3 Longer term economic impacts

As was clear from Chart 2.2 (the impact on the real economy) and Chart 2.8 (the impact on jobs), the boost to the size of the Australian economy would tend to fade over time. That's because the impact of the increases to interest rates and exchange rates would gradually rise over time.

More importantly still, this policy change comes at a cost to the Federal Budget, but the model assumes that – over time – taxes lift to mean that the debt levels of the Australian government return to where they'd otherwise be.

The combination of those factors – very slight increases in taxes, interest rates and exchange rates that occur over time – thereby gradually return the Australian economy back closer towards the path it was otherwise on (the baseline scenario).

As a simple example of the impact of that, the net number of additional jobs created by this change in policy – which stood at 12,000 extra jobs in 2020-21 – is estimated to slip back below 4,400 by 2024-25, and to be less than 500 extra workers by 2029-30.

That fading strength in the "prosperity positives" is no surprise. Some of the gains to the "size of the pie" are generated by dipping into the Federal Budget to pay for higher allowances. The net cost of that to Australian taxpayers is gradually clawed back via higher taxes and, as noted, the stronger economy also shows up in higher interest and exchange rates.

Or, to put that another way, the prosperity allowances fade over time, but the most compelling reasons to adopt this reform revolve more around fairness than they do around prosperity.

2.4 The 'who' and the 'where' of beneficiaries would increase the prosperity impact

It is important to note that the modelling may well understate the extent of the prosperity allowances.

Most notably, it is important that these dollars would flow to the poorest of the poor in Australia.

Their spending patterns are likely to differ to the averages assumed in the modelling here because of *who they are* and because of *where they live*:

- The beneficiaries are poor, so they're likely to spend a larger share of any additional income and, within that, the money is more likely to be spent on essentials such as food, heating and shelter. That's important, as such spending is less subject to import competition. Or, to put that another way, more of those dollars are likely to stay in Australia than the model assumes.
- And the beneficiaries disproportionately live in regional Australia – where, again, import penetration is lower, so more of those dollars are likely to stay in Australia than the model assumes.

2.5 Social benefits include better health

There is also the likelihood that better income for the unemployed and other groups who are disadvantaged may lead to better national outcomes on indicators as diverse as health (for example, see DiPrete and McManus, 2000) and crime (for example, see Altindag et al, 2011).

A detailed summary of this literature focusing on the effect on the family unit can be found in Gray et al (2009). We have included a short summary of some of the findings which draws from that article as well as other literature.

Periods of unemployment can be stressful, where individuals face markedly changed life circumstances[10].

For example, during periods of unemployment, individuals:

- Are likely to receive lower incomes, both immediately and also upon re-employment;
- Lose a large source of regular social interaction; and
- May face a stigma associated with being unemployed (DiPrete and McManus, 2000).

Together, these effects can culminate in unemployed workers being more likely to develop certain conditions and diseases. However, the causality also runs the other way, whereby people become unemployed due to illnesses.

The causal link between unemployment and disease appears to be strongest for the following:

[10] Research typically examines the causality generally either underpinned by studies of workers following plant closures, or longitudinal studies tracking the same individual over time.

- Mental health issues, where a number of papers identify unemployment affecting the whole spectrum of mental health issues, from depression to schizophrenia; and
- Cardiac/heart diseases, where the stress from unemployment causes increased incidence of Cardiac/heart disease.

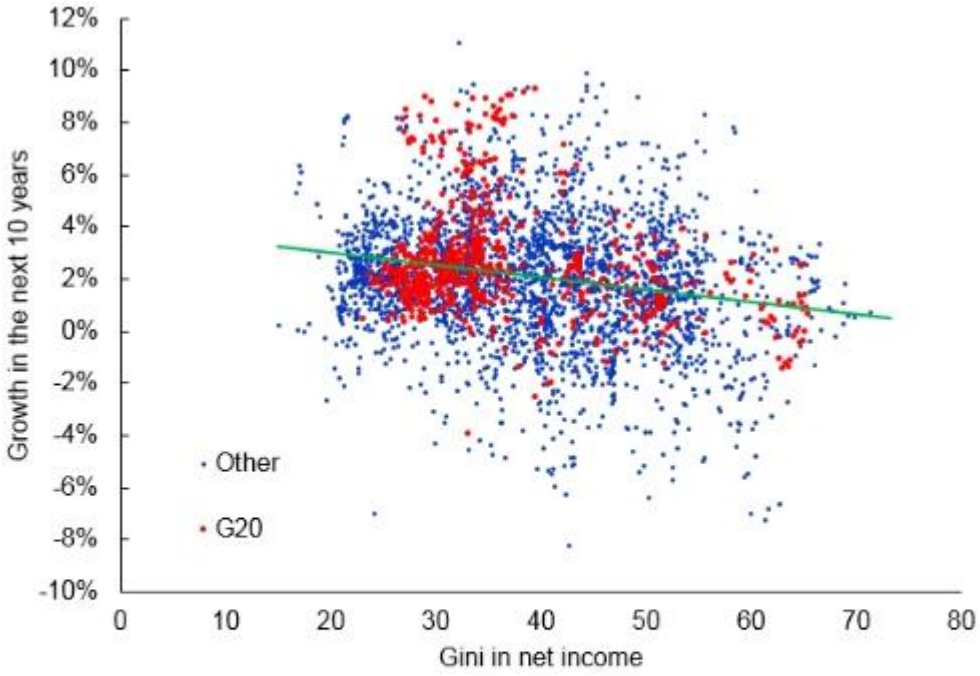
There are also flow on effects of individual unemployment for families and children in particular. Baron (2008) find that children growing up in a household where their parents were on income support for six or more years were less likely to complete Year 12 and less likely to obtain a Tertiary entrance score than children from households who received no income support. A number of studies also find evidence that the psychological impact of being unemployed can adversely affect upon parenting and through that the wellbeing of the children (Elder 1999; Solantanus, Leinonen, & Punamaki, 2004).

Note that Deloitte Access Economics has made no attempt to adjust these results for the positives flowing from reduced financial pressures on the poor to changes in key social outcomes such as health. It is beyond the scope of this study.

2.6 Direct links between fairness and prosperity

Finally, the economic literature (see, for example, http://www.imf.org/external/np/fad/inequality/) has increasingly identified inequality as a factor that can directly weigh on prosperity.

Chart 2.12: Inequality and growth, percent of GDP and net income inequality, 1960-2010



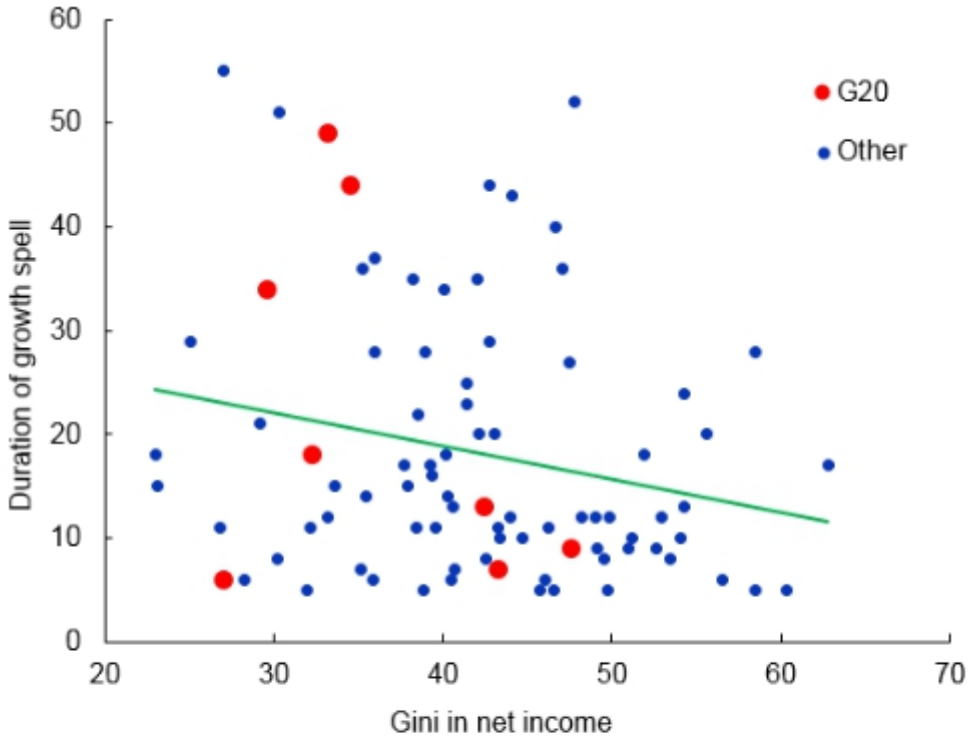
Sources: Ostry, Berg, and Tsangarides (2014), using data from Penn World Tables version 7.1; and authors' calculations.
Note: Dots represent counties. The Gini index measures inequality: 0 is no inequality, 100 is full inequality. The green line shows the correlation of growth and inequality.

Source: International Monetary Fund

For example, research by the IMF (https://blogs.imf.org/2017/09/20/growth-that-reaches-everyone-facts-factors-tools/) indicates that:

- Nations with greater levels of inequality tend to have lower economic growth over time (in the language used in this report, failures on fairness can limit success on prosperity – see Chart 2.12 above); while
- The worse is inequality in a nation, then the shorter are its spells of high economic growth (see Chart 2.13).

Chart 2.13: Inequality and the durability of growth, duration of growth spells, average net income inequality 1960-2010



Sources: Ostry, Berg, and Tsangarides (2014), using data from Penn World Tables version 7.1; and authors' calculations.
Note: Dots represent counties. The minimum length of a spell is five years. The Gini index measures inequality: 0 is no inequality, 100 is full inequality.

Source: International Monetary Fund

The upshot is that the results in this report are likely to be conservative: the "prosperity dividend" could be both larger and longer-lived than these results have it.

3 Fairness impacts

3.1 Fair's fair

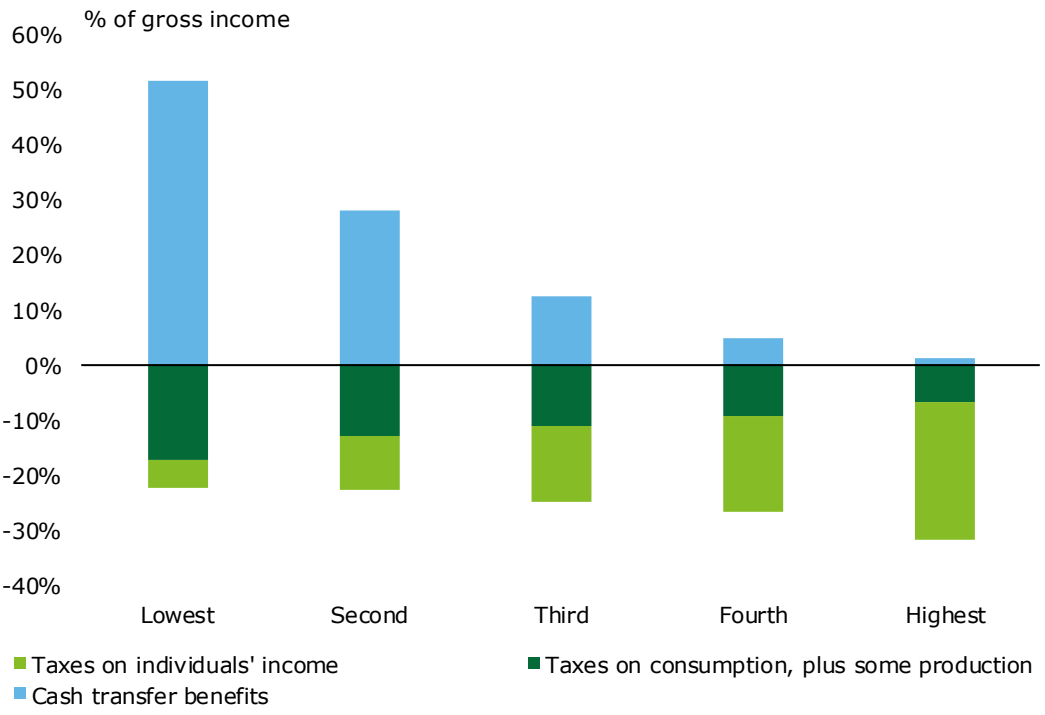
What's the best way to achieve fairness?

That's a big question, and only part of the answer is the result of the choices made in the Federal Budget.

That said, the Budget is a key component of Australia's social compact.

As Treasury notes, *"Australia's tax and transfer systems are highly progressive".* Its chart – reproduced below with the latest data – shows that fairness is mostly achieved through government spending (the blue bars) rather than through personal taxes (although they are also progressive) and consumption taxes such as the GST (which are regressive – but are part of an overall system which is quite progressive).

Chart 3.1: Estimates of the progressivity of taxes and transfers



Source: Federal Treasury, Chart 2.11 on page 29 of the Rethink Tax Discussion Paper, March 2015; ABS Cat No. 6537.0

That essential point – that the most effective lever for achieving fairer outcomes is typically through how governments spend rather than how they tax – isn't widely appreciated.

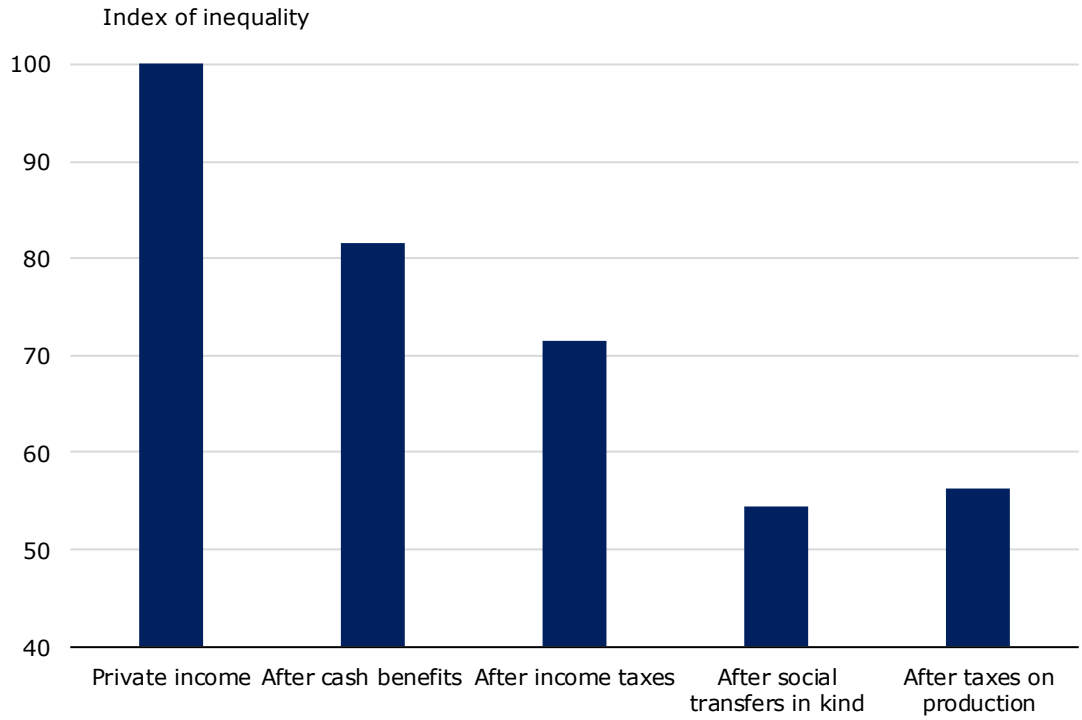
Data from the Australian Bureau of Statistics (2018) is a good way to appreciate that point. Consider the private income earned by households. Some households earn a lot of private income, and some only a little.

The inequality implied by the initial distribution of private income can be considered as an index so as to help illustrate how the actions of governments then improve on that starting point.

Chart 3.2 sets this out:

- Governments pay **cash benefits** such as age pensions, disability and carer payments, family support payments, unemployment and study payments, and other payments. Other things equal, these cash benefits reduce the inequality across Australian households by almost a fifth. (Or, in other words, the inequality index in the chart below drops to 82.)
- **Income taxes** further reduce that inequality by an additional tenth. (The inequality index drops to 71.)
- **Social transfers in kind** (such as the impact of the education and health systems) reduce the inequality index further still, to 55.
- Finally, **production taxes** (such as the GST, as well as taxes on fuel, alcohol, tobacco and the like) raise the inequality index a little, lifting it back to 56.

Chart 3.2: Index of inequality, 2015-16 (private income distribution = 100)



Source: Deloitte Access Economics; ABS Cat No. 6323.0

There's a lot wrapped up in that summary above.

Other things equal, however, the simple point is that the two largest fairness levers in Australia are (1) cash benefits and (2) the operation of the education and health systems.

This report considers the impact of potential increases focussed on the 'unemployment and study payments' category of cash benefits.

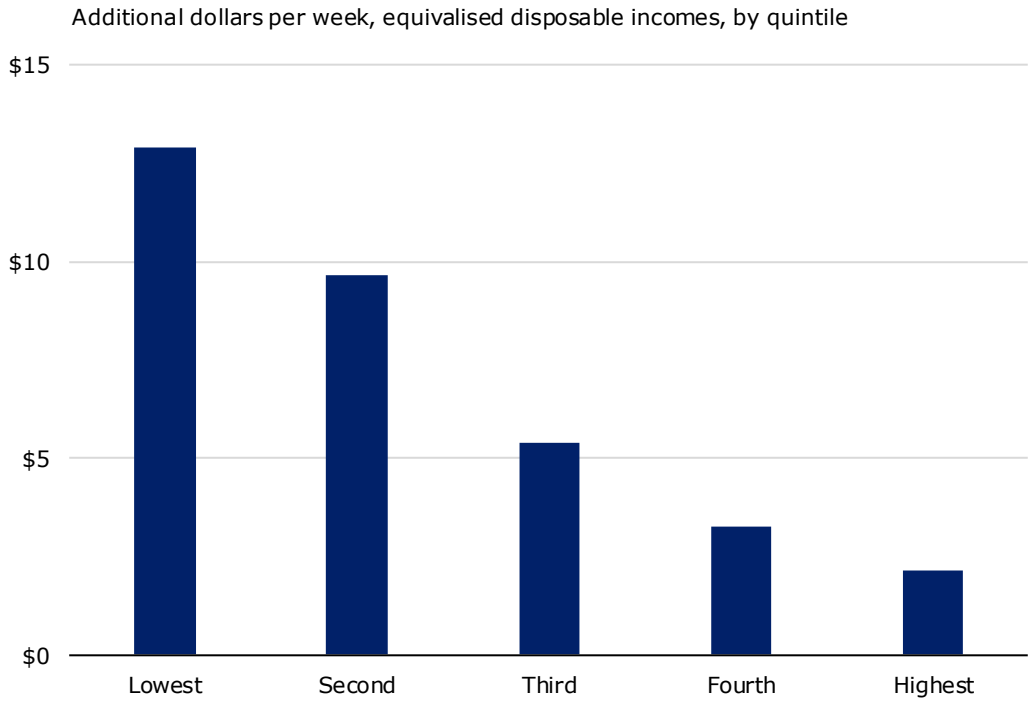
3.2 Bottom line impacts on disposable incomes

This report describes the increase in allowances it is analysing as an increase in payments made to "the poorest of the poor" in Australia.

That said, it is possible – for example – for an unemployed person to be living at home with their parents. And, in turn, their parents may have high incomes. In other words, the impact of higher allowances would be spread across households.

Its impact is shown in Chart 3.3.[11]

Chart 3.3: Increase in household disposable incomes, equivalised quintiles, per week



Source: Deloitte Access Economics

However, even allowing for the possibility of some higher income households to benefit, the bulk of the dollars go to the lowest income quintile of households.[12] Measured in dollar terms, the lowest quintile receives six times the dollars going to the highest income quintile. This is consistent with previous work which found that the largest beneficiaries of the policy change would be the bottom 5% of households as this cohort has a large share of households where the main income earner is on Newstart Allowance (ACOSS and UNSW, 2018).

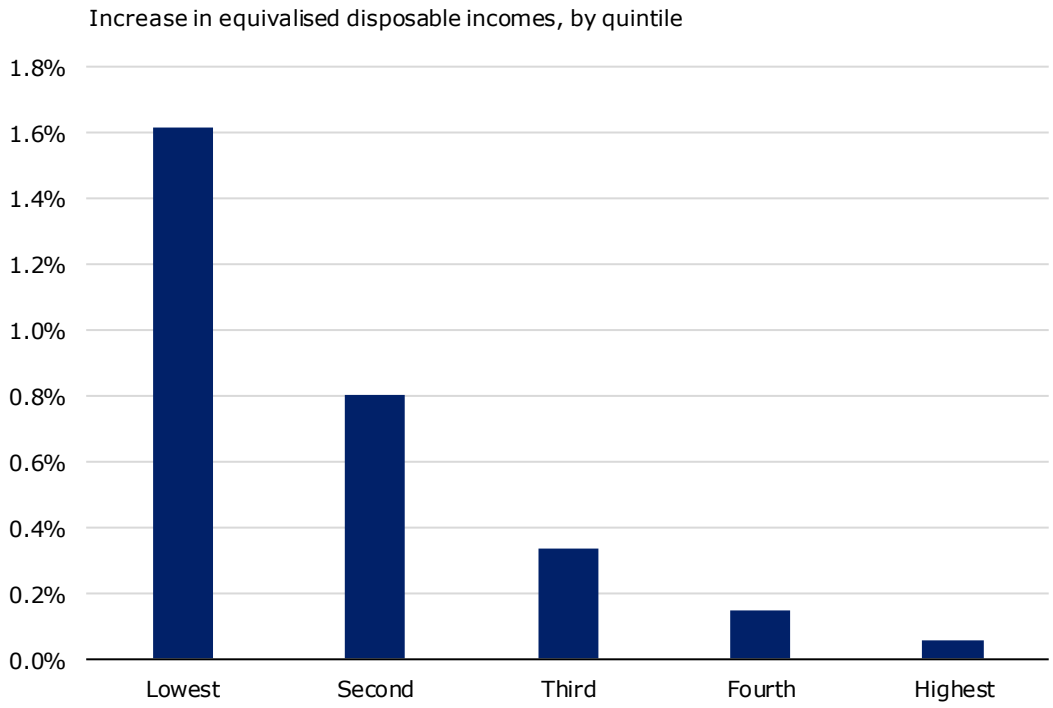
That said, dollars aren't the best way to assess the impact on fairness. What matters is the relative impact of those extra dollars on disposable incomes. It is the latter measure, which is illustrated in Chart 3.4.

And, on that measure, the proportionate impact becomes fully evident: the lowest quintile receives twenty eight times the relative boost to its disposable incomes than does the highest income quintile – an increase in income of 1.6% for the lowest quintile, versus 0.06% for the highest quintile.

[11] Note that these are direct impacts. As noted in the previous chapter, there are a range of indirect impacts. That said, the latter vary notably over time, and the overall fairness impacts are best assessed by an examination of the direct impacts.

[12] The ABS use an equivalence scale to adjust household incomes to take into account the 'economies of scale' that flow from sharing resources within households with more than one member. More information on the ABS equivalisation process is available at http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/6523.0~2015-16~Main%20Features~Key%20Concepts~3.

Chart 3.4: Increase in household disposable incomes, equivalised quintiles, %



Source: Deloitte Access Economics

Accordingly, any given dollar spent on this policy proposal would have a very tightly targeted fairness impact, with the overwhelming bulk of relative improvements in disposable incomes going to Australia's lowest income families.

By definition, these relativities are greater still in terms of individual incomes.

That illustrates the fairness strengths of the current proposal.

4 Regional impacts

The regional estimates presented here are developed and tested using Deloitte Access Economics' – Regional General Equilibrium Model (DAE-RGEM). DAE-RGEM is a large scale, dynamic, multi-region, multi-commodity CGE model of the world economy with bottom-up modelling of Australian regions. These regional estimates are then calibrated to ensure that they are consistent with the aggregate results produced by the Deloitte Horizon model which are presented in section 2.2.

This chapter presents a summary of those results while a full list of outcomes for each LGA and summary results for the states and territories is contained in Appendix A.

4.1 Making impacts that matter

The different types of allowances that would be raised have different regional profiles (for example, youth allowance recipients who are students tend to live in cities and large towns with universities and TAFEs). That said, the bulk of the impact would be through increased Newstart allowances, and the regional distribution of those allowances would boost both the prosperity and fairness impacts discussed above.

From a prosperity viewpoint, unemployment in Australia is relatively higher outside our largest cities and towns. Other things equal, that means that relatively more of the increased spending flowing from higher allowances would tend to stay in Australia: being spent on locally produced products and local labour.

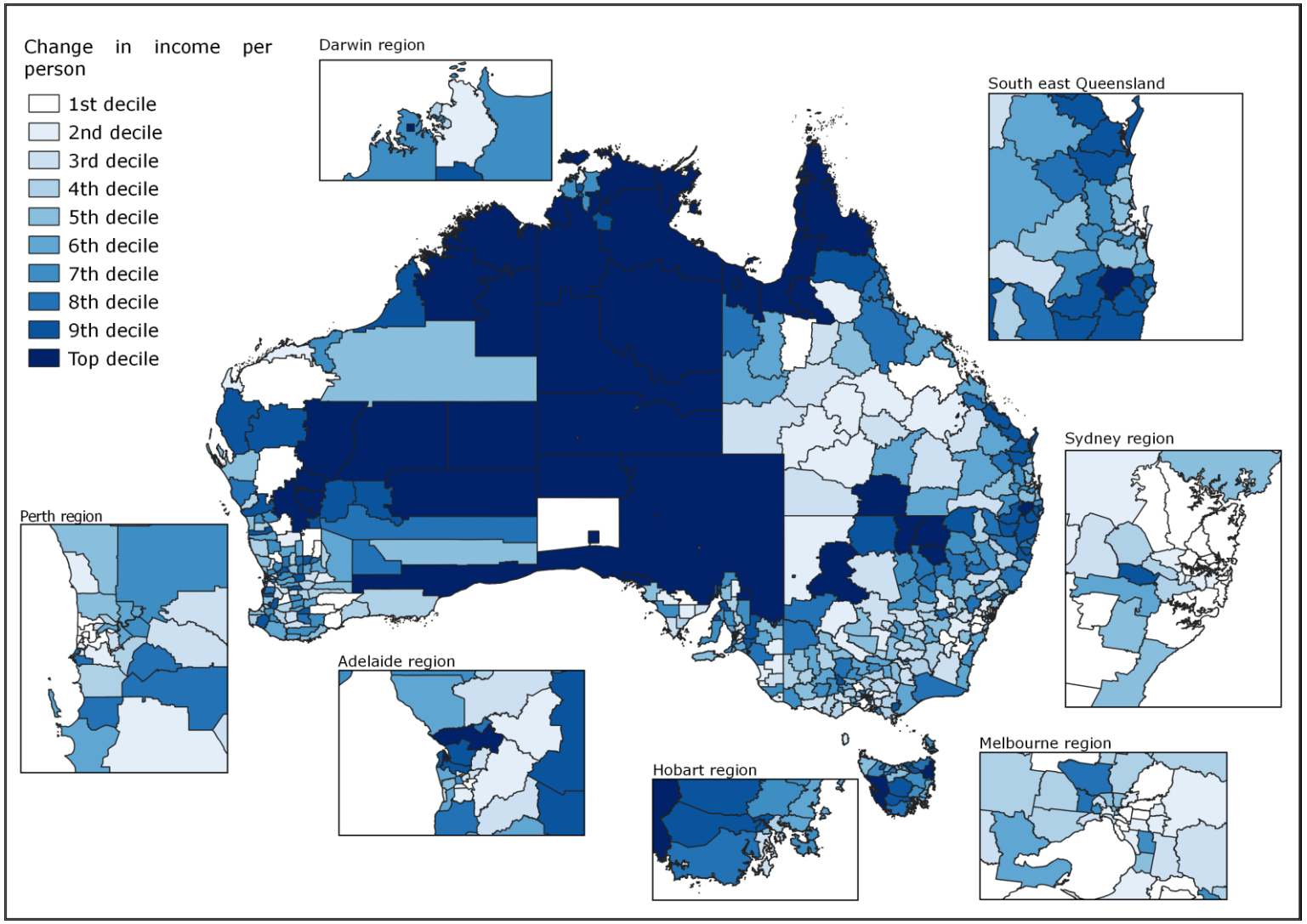
This is what Figure 4.1 below shows. The darker regions which receive the largest per person allowances tend to be in remote or regional Australia. This result is also presented in Table 4.1 below which shows the results for the 20 LGAs which receive the largest per person benefit. Most of these LGAs are in regional or remote Australia.

Table 4.1: Outcomes for key economic indicators for the top 20 LGAs affected in per person terms, change in per person value, 2018-19

Local government area	State	Disposable income	Consumption	Economic output
Belyuen (S)	NT	$1,292	$1,281	$262
Wujal Wujal (S)	QLD	$982	$982	$201
Woorabinda (S)	QLD	$946	$947	$194
Aurukun (S)	QLD	$858	$861	$313
Yarrabah (S)	QLD	$812	$817	$167
Kowanyama (S)	QLD	$772	$778	$159
Tiwi Islands (R)	NT	$743	$751	$154
Ngaanyatjarraku (S)	WA	$734	$742	$152
Mount Magnet (S)	WA	$703	$712	$259
Hope Vale (S)	QLD	$699	$708	$145
Central Desert (R)	NT	$686	$696	$142
Cherbourg (S)	QLD	$670	$680	$247
West Arnhem (R)	NT	$651	$662	$135
Mornington (S)	QLD	$623	$635	$130
West Daly (R)	NT	$622	$634	$130
Pormpuraaw (S)	QLD	$619	$630	$129
Meekatharra (S)	WA	$581	$594	$121
MacDonnell (R)	NT	$566	$580	$119
East Arnhem (R)	NT	$542	$556	$114
Halls Creek (S)	WA	$532	$547	$112

Source: Deloitte Access Economics

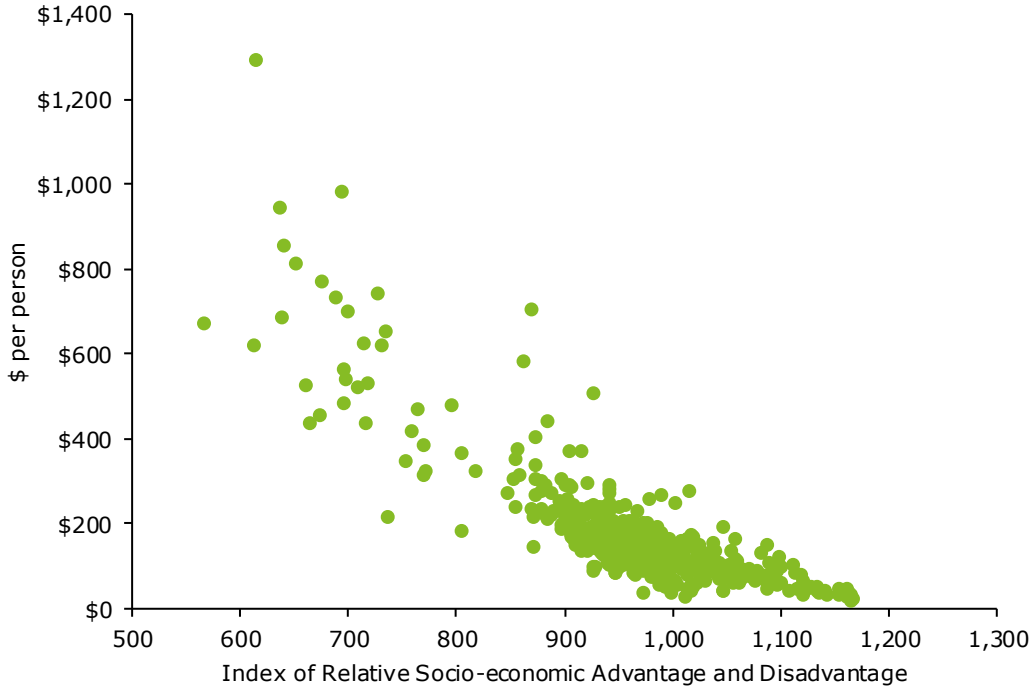
Figure 4.1: Increase in regional disposable income per head for each local government area



Source: Deloitte Access Economics

From a fairness viewpoint, there is a relatively tight correlation between the least well-off districts in the land (measured using the Socio-Economic Indexes for Areas (SEIFA) index) and the boost to regional spending from this proposal, meaning that the regional economies most in need of help would receive it were this proposal to be enacted.

Chart 4.1: Increase in regional disposable income per head, mapped against regional SEIFA scores



Source: Deloitte Access Economics; ABS.stat database
Note: SEIFA score is based on an index of relative socio-economic advantage and disadvantage. . The higher the index value the more advantaged a region is relative to other regions. Data is from 2016.

When it comes to the total impact by LGA the results are different. This is largely due to the large variation of population in each LGA in Australia. As Table 4.2 below shows, the LGAs which receive the largest aggregate benefit are in the capital cities and large regional centres. This is due to these regions having larger populations, rather than a higher propensity to have individuals who receive the payments.

Table 4.2: Outcomes for key economic indicators for each State and Territory, Total increase ($m), 2018-19

Local government area	State	Disposable income	Consumption	Economic output
Brisbane (C)	QLD	$134.40	$168.86	$73.62
Gold Coast (C)	QLD	$79.44	$95.92	$26.47
Moreton Bay (R)	QLD	$65.27	$77.56	$33.82
Logan (C)	QLD	$57.34	$65.75	$28.67
Fairfield (C)	NSW	$51.03	$56.09	$24.46
Canterbury-Bankstown (A)	NSW	$49.16	$59.38	$25.89
Central Coast (C) (NSW)	NSW	$46.63	$55.98	$15.45
Sunshine Coast (R)	QLD	$45.48	$54.03	$14.91
Blacktown (C)	NSW	$45.33	$55.34	$24.13
Hume (C)	VIC	$41.37	$47.00	$20.49
Brimbank (C)	VIC	$41.14	$46.53	$20.29
Casey (C)	VIC	$38.14	$47.48	$20.70
Greater Geelong (C)	VIC	$37.42	$44.11	$12.17
Ipswich (C)	QLD	$35.92	$41.39	$18.05
Townsville (C)	QLD	$35.57	$40.64	$11.22
Salisbury (C)	SA	$33.28	$36.74	$16.02

Cairns (R)	QLD	$32.66	$36.89	$10.18
Liverpool (C)	NSW	$31.88	$37.85	$16.50
Onkaparinga (C)	SA	$31.70	$36.11	$15.74
Unincorporated ACT	ACT	$30.51	$42.81	$18.67

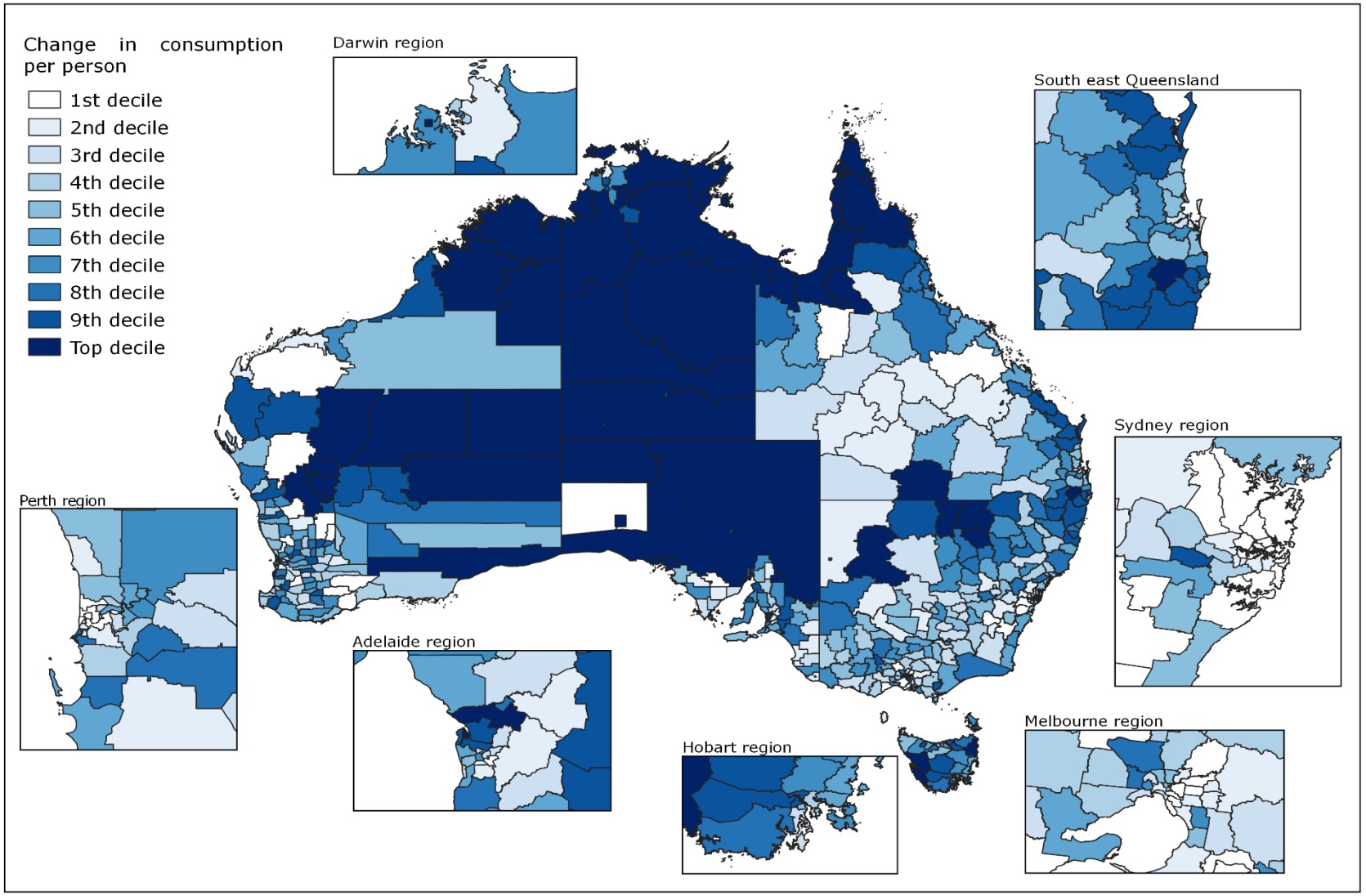
Source: Deloitte Access Economics

Figure 4.2 shows how the increase in income flows through to regional consumption growth. Unlike with income, the increase in consumer spending is more even across regions. That's no surprise: as is always the case, some income is spent in a different region to where it is earned. This is more common in larger cities and towns and where allowance recipients are more likely to travel across LGA boundaries for work or study or to go to the shops.

That said, there is still a relatively tight correlation between where the income is received and where it is spent. This is particularly true for regional and remote areas where the distances are larger.

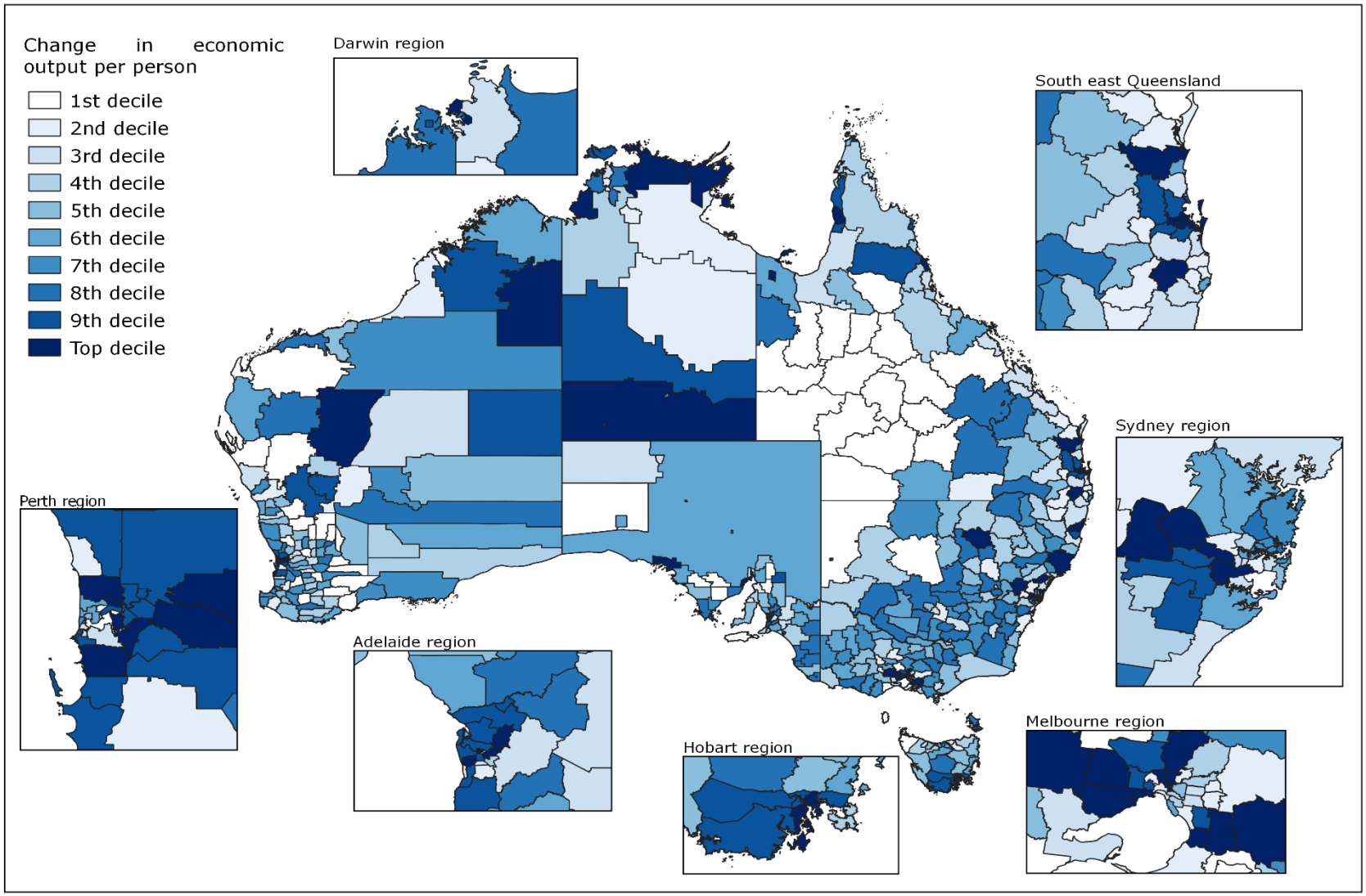
This is also the case when it comes to regional economic growth. However, as Figure 4.3 shows, the correlation between where the income is earned and economic activity is not as strong as it is for consumption. This is due to the degree to which goods in particular (for example, fresh food or manufactured goods) are produced elsewhere in Australia or imported from overseas and then consumed within the local area. That said, the economies in the regions that receive a higher share of the increase in income do tend to benefit more.

Figure 4.2: Increase in regional consumer spending per head for each local government area



Source: Deloitte Access Economics

Figure 4.3: Increase in regional economic output per head for each local government area



Source: Deloitte Access Economics

References

Altindag, D. T. (2012). Crime and unemployment: Evidence from Europe. *International review of Law and Economics*, *32*(1), 145-157.

Australian Bureau of Statistics (2018), Government Benefits, Taxes and Household Income, Australia, 2015-16, accessible at http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6537.02015-16?OpenDocument

Australian Council of Social Service and University of New South Wales, (2018). "Inequality In Australia 2018", available at: https://www.acoss.org.au/wp-content/uploads/2018/07/Inequality-in-Australia-2018.pdf

Australian Government (2013). Guide to Australian longitudinal studies. *FaHCSIA Research and Analysis Branch.*

Australian Institute of Health and Welfare (1999) "Health consequences of unemployment: a review of the evidence"

Baron, J. (2008). Exploring the factors associated with youths' educational outcomes: The role of locus of control and parental socio-economic background (Youth in Focus Project Discussion Paper No. 4). Canberra: Australian National University.

Carroll, N. (2007). Unemployment and Psychological Well-being. *Economic Record*, 83(262), 287-302.

Clark and Oswald (1994) "Unhappiness and unemployment" The Economic Journal 104(424): 648-659

Clark, A. E. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of labor economics*, *21*(2), 323-351.

Classe and Dunn (2012) "The effect of job loss and unemployment duration on suicide risk in the United States: A new look using mass-layoffs and unemployment duration" Health Economics 21(3): 338-350

Commonwealth of Australia 2015, *Re:think Tax Discussion Paper, Better tax system, better Australia*, March, Available at: http://bettertax.gov.au/publications/discussion-paper/

Debelle, G and Vickery, J, 'The macroeconomics of Australian unemployment', Unemployment and the Australian Labour Market Conference, Reserve Bank of Australia, 9–10 June 1998.

DiPrete, T. A. and McManus, P. A. (2000), "Family Change, Employment Transitions, and the Welfare State: Household Income Dynamics in the United States and Germany", American Sociological Review Vol. 65, No. 3 (Jun., 2000), pp. 343-370

Dockery, A. M. (2005). The happiness of young Australians: Empirical evidence on the role of labour market experience. *Economic Record*, *81*(255), 322-335.Carroll, N. (2007). Unemployment and Psychological Well-being. *Economic Record*, *83*(262), 287-302.

Elder, G. (1999). Children of the Great Depression: Social change in life experience (25th anniversary ed.). Chicago: University of Chicago Press.

Eliason and Storrie (2009) "Does job loss shorten life?" Journal of Human Resources 44(2): 277-302

Gerdtham and Johannesson (2003) "A note on the effect of unemployment on mortality" Journal of health economics 22(3): 505-518

Gielen, A. C., and J. C. van Ours. (2014). Unhappiness and job finding. Economica 81:323, 544–565.

Gould, E.D, Weinburg, B.A. and Mustard, D.B. (2002), "Crime rates and local labour market opportunities in the US: 1979-1997", accessible at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.196.1964&rep=rep1&type=pdf

Gray, M., Edwards, B., Hayes, A., & Baxter, J. (2009). The impacts of recessions on families. Family Matters, 83, 7-14.

Halliday (2014) "Unemployment and mortality: Evidence from the PSID" Social Science and Medicine 113: 15-22

Helliwell, J. F., & Huang, H. (2014). New measures of the costs of unemployment: Evidence from the subjective well-being of 3.3 million Americans. *Economic Inquiry*, *52*(4), 1485-1502.

Herbig et al (2013) "Health in the long term unemployed" Deutsches Ärzteblatt International 110(23-24): 413-419

Hetschko, C., A. Knabe, and R. Schob. (2014). Changing identity: Retiring from unemployment. Economic Journal 124:575, 149–166.

International Monetary Fund, "Growth That Reaches Everyone: Facts, Factors, Tools", (2017), accessible at https://blogs.imf.org/2017/09/20/growth-that-reaches-everyone-facts-factors-tools/#post/0

International Monetary Fund, "IMF's Work on Income Inequality", (2018), accessible at http://www.imf.org/external/np/fad/inequality/

Janlert et al. (2014) "Length of unemployment and health-related outcomes: a life-course analysis" European Journal of Public Health 25(4): 662-667

Maeda et al. (2014) "Association between the unemployment rate and inpatient cost per discharge by payer in the US, 2005-2010" BMC health services research 14(1): 378

Mathers and Scholfield (1998) "The health consequences of unemployment: the evidence" Medical Journal of Australia 168 (4): 179-182

McInerney and Mellor (2012) "State unemployment in recessions during 1991-2009 was linked to faster growth in Medicare spending" Health Affairs 31(11): 2464-2473

Ruhm (2007) "A healthy economy can break your heart" Demography 44(4): 829-848

Salm (2009) "Does job loss cause ill health" Health Economics 18(9): 1075-1089

Solantaus, T., Leinonen, J., & Punamäki, R.- L. (2004). Children's mental health in times of economic recession: Replication and extension of the family economic stress model in Finland. Developmental Psychology, 40, 412–429.

Strully (2009) "Job Loss and Health in the U.S. Labor Market" Demography 46(2): 221–246.

Sullivan and von Wachter (2009) "Job displacement and mortality: an analysis using administrative data" The Quarterly Journal of Economics 124(3): 1265-106

The University of Melbourne (2016). The Household, Income and Labour Dynamics in Australia (HILDA) Survey. https://www.melbourneinstitute.com/hilda/

Weatherburn, D. (2001). What causes crime?. *BOCSAR NSW Crime and Justice Bulletins*, 11.

Whooley et al. "Depressive symptoms, unemployment and loss of income: The CARDIA study" Archives of Internal Medicine 162(22): 2614-2620

Winkelmann, R. (2009). Unemployment, social capital, and subjective well-being. Journal of Happiness Studies 10:4, 421–430.

Winkelmann, R. (2014). Unemployment and happiness. *IZA World of Labor*, available at: http://wol.iza.org/articles/unemployment-and-happiness-1.pdf

Wulfgramm, M. (2014). Life satisfaction effects of unemployment in Europe: The moderating influence of labour market policy. *Journal of European Social Policy*, *24*(3), 258-272.

Appendix A: LGA outcomes

Table A.1: Outcomes for key economic indicators for each local government area, change in per person value, 2018-19

Local government area	State	Disposable income	Consumption	Economic output
Belyuen (S)	NT	$1,292	$1,281	$262
Wujal Wujal (S)	QLD	$982	$982	$201
Woorabinda (S)	QLD	$946	$947	$194
Aurukun (S)	QLD	$858	$861	$313
Yarrabah (S)	QLD	$812	$817	$167
Kowanyama (S)	QLD	$772	$778	$159
Tiwi Islands (R)	NT	$743	$751	$154
Ngaanyatjarraku (S)	WA	$734	$742	$152
Mount Magnet (S)	WA	$703	$712	$259
Hope Vale (S)	QLD	$699	$708	$145
Central Desert (R)	NT	$686	$696	$142
Cherbourg (S)	QLD	$670	$680	$247
West Arnhem (R)	NT	$651	$662	$135
Mornington (S)	QLD	$623	$635	$130
West Daly (R)	NT	$622	$634	$130
Pormpuraaw (S)	QLD	$619	$630	$129
Meekatharra (S)	WA	$581	$594	$121
MacDonnell (R)	NT	$566	$580	$119
East Arnhem (R)	NT	$542	$556	$114
Halls Creek (S)	WA	$532	$547	$112
Doomadgee (S)	QLD	$524	$539	$110
Roper Gulf (R)	NT	$521	$536	$110
Yalgoo (S)	WA	$509	$524	$190
Lockhart River (S)	QLD	$485	$501	$103
Derby-West Kimberley (S)	WA	$481	$497	$181
Barkly (R)	NT	$471	$488	$100
Palm Island (S)	QLD	$455	$472	$97
Coober Pedy (DC)	SA	$440	$458	$94
Napranum (S)	QLD	$438	$456	$93
Anangu Pitjantjatjara (AC)	SA	$437	$455	$93
Torres Strait Island (R)	QLD	$417	$435	$89
Carpentaria (S)	QLD	$405	$424	$87
Wiluna (S)	WA	$386	$405	$83
Walgett (A)	NSW	$376	$395	$81
Cook (S)	QLD	$370	$390	$80
Cue (S)	WA	$369	$389	$80
Peterborough (DC)	SA	$369	$388	$141
Central Darling (A)	NSW	$351	$371	$76
Victoria Daly (R)	NT	$346	$367	$75
Dundas (S)	WA	$338	$359	$73
Northern Peninsula Area (R)	QLD	$326	$347	$71
Brewarrina (A)	NSW	$325	$346	$71
West Coast (M)	TAS	$317	$338	$69
Laverton (S)	WA	$316	$338	$69
Croydon (S)	QLD	$307	$329	$67
Whyalla (C)	SA	$307	$328	$119
Playford (C)	SA	$306	$328	$273
Break O'Day (M)	TAS	$302	$324	$66
Burke (S)	QLD	$296	$318	$65
Unincorporated SA	SA	$293	$315	$64
Coonamble (A)	NSW	$290	$313	$114
Kyogle (A)	NSW	$290	$312	$114
Wyndham-East Kimberley (S)	WA	$289	$312	$64
Paroo (S)	QLD	$287	$309	$63

Ceduna (DC)	SA	$282	$304	$111
Alice Springs (T)	NT	$279	$301	$62
Port Augusta (C)	SA	$278	$301	$109
Carnarvon (S)	WA	$274	$297	$61
Coomalie (S)	NT	$271	$294	$107
George Town (M)	TAS	$271	$294	$107
Port Pirie City and Dists (M)	SA	$268	$291	$106
Katherine (T)	NT	$267	$290	$106
Broome (S)	WA	$258	$281	$102
Tenterfield (A)	NSW	$257	$281	$102
Nambucca (A)	NSW	$252	$276	$146
Lismore (C)	NSW	$251	$275	$100
Byron (A)	NSW	$251	$274	$100
Collie (S)	WA	$248	$272	$99
Glen Innes Severn (A)	NSW	$246	$270	$98
Fraser Coast (R)	QLD	$244	$268	$97
Mareeba (S)	QLD	$244	$268	$141
Greater Geraldton (C)	WA	$243	$267	$97
Fairfield (C)	NSW	$242	$266	$221
Trayning (S)	WA	$241	$265	$54
Leonora (S)	WA	$241	$265	$54
Sandstone (S)	WA	$241	$265	$96
Launceston (C)	TAS	$241	$265	$96
Brighton (M)	TAS	$239	$263	$219
Nannup (S)	WA	$238	$262	$95
Copper Coast (DC)	SA	$238	$262	$95
Central Goldfields (S)	VIC	$236	$260	$94
Pingelly (S)	WA	$236	$260	$94
Bourke (A)	NSW	$235	$260	$53
Bundaberg (R)	QLD	$235	$259	$94
Latrobe (C) (Vic.)	VIC	$234	$258	$94
Salisbury (C)	SA	$233	$258	$215
Murray Bridge (RC)	SA	$233	$257	$93
Carnamah (S)	WA	$232	$256	$93
Northam (S)	WA	$231	$256	$93
Bunbury (C)	WA	$231	$255	$93
Burnie (C)	TAS	$230	$255	$93
Glenorchy (C)	TAS	$230	$255	$212
Kempsey (A)	NSW	$229	$253	$92
Torres (S)	QLD	$226	$251	$51
Katanning (S)	WA	$226	$251	$91
Quairading (S)	WA	$226	$250	$91
Mid Murray (DC)	SA	$224	$248	$90
Broken Hill (C)	NSW	$221	$246	$50
Moree Plains (A)	NSW	$220	$245	$50
Central Highlands (M) (Tas.)	TAS	$220	$245	$50
Devonport (C)	TAS	$220	$244	$89
Derwent Valley (M)	TAS	$218	$243	$203
Gympie (R)	QLD	$217	$242	$127
Upper Gascoyne (S)	WA	$215	$240	$49
Clarence Valley (A)	NSW	$213	$238	$86
Richmond Valley (A)	NSW	$211	$236	$86
Waroona (S)	WA	$210	$235	$85
Port Adelaide Enfield (C)	SA	$210	$235	$196
Gladstone (R)	QLD	$208	$233	$85
Northampton (S)	WA	$208	$233	$85
Warren (A)	NSW	$207	$232	$47
Bellingen (A)	NSW	$207	$232	$122
Kwinana (C)	WA	$206	$231	$193
Cassowary Coast (R)	QLD	$205	$230	$84
Rockhampton (R)	QLD	$204	$230	$83
Berri and Barmera (DC)	SA	$204	$229	$83
Renmark Paringa (DC)	SA	$203	$228	$83
Wentworth (A)	NSW	$203	$228	$83
Mid-Coast (A)	NSW	$203	$228	$120
Nungarin (S)	WA	$202	$228	$47

Armidale Regional (A)	NSW	$202	$228	$83
Tablelands (R)	QLD	$202	$227	$83
Charters Towers (R)	QLD	$202	$227	$82
Mount Isa (C)	QLD	$201	$226	$46
East Gippsland (S)	VIC	$198	$223	$81
Douglas (S)	QLD	$197	$223	$81
Cairns (R)	QLD	$197	$222	$117
South Burnett (R)	QLD	$195	$221	$80
Brimbank (C)	VIC	$195	$220	$184
Coffs Harbour (C)	NSW	$195	$220	$116
Broomehill-Tambellup (S)	WA	$194	$220	$80
Mandurah (C)	WA	$194	$220	$183
Goomalling (S)	WA	$194	$219	$80
Wyalkatchem (S)	WA	$193	$218	$79
Port Lincoln (C)	SA	$193	$218	$79
Armadale (C)	WA	$192	$217	$181
Fremantle (C)	WA	$191	$217	$181
Liverpool Plains (A)	NSW	$190	$216	$78
Gilgandra (A)	NSW	$189	$215	$44
Kentish (M)	TAS	$189	$215	$78
Loddon (S)	VIC	$189	$215	$78
Huon Valley (M)	TAS	$189	$215	$179
Hume (C)	VIC	$189	$215	$179
Cessnock (C)	NSW	$189	$215	$113
Dorset (M)	TAS	$188	$214	$78
Warrumbungle Shire (A)	NSW	$188	$214	$78
Mount Gambier (C)	SA	$188	$214	$78
Tammin (S)	WA	$188	$214	$78
Coolgardie (S)	WA	$188	$214	$78
Inverell (A)	NSW	$188	$214	$78
The Coorong (DC)	SA	$186	$212	$77
Murray (S)	WA	$186	$212	$176
Onkaparinga (C)	SA	$186	$211	$176
Albury (C)	NSW	$185	$211	$77
Mildura (RC)	VIC	$185	$211	$77
Gawler (T)	SA	$185	$211	$176
Lithgow (C)	NSW	$182	$208	$110
Townsville (C)	QLD	$182	$208	$110
Menzies (S)	WA	$181	$207	$42
Ballarat (C)	VIC	$181	$207	$109
Gosnells (C)	WA	$180	$206	$172
Cowra (A)	NSW	$179	$205	$75
Narromine (A)	NSW	$179	$205	$74
Plantagenet (S)	WA	$179	$205	$74
Glenelg (S)	VIC	$178	$204	$74
Logan (C)	QLD	$178	$204	$170
Somerset (R)	QLD	$177	$203	$170
Moora (S)	WA	$177	$203	$74
Bass Coast (S)	VIC	$177	$203	$74
Barunga West (DC)	SA	$177	$203	$74
Hinchinbrook (S)	QLD	$177	$203	$74
Gnowangerup (S)	WA	$176	$202	$73
Tasman (M)	TAS	$176	$202	$73
Narrabri (A)	NSW	$175	$202	$73
Yankalilla (DC)	SA	$175	$202	$73
York (S)	WA	$175	$201	$73
Waratah/Wynyard (M)	TAS	$174	$201	$73
Wagin (S)	WA	$174	$200	$73
Eurobodalla (A)	NSW	$174	$200	$73
Greater Shepparton (C)	VIC	$173	$200	$73
Muswellbrook (A)	NSW	$173	$199	$72
Southern Downs (R)	QLD	$173	$199	$72
Pyrenees (S)	VIC	$173	$199	$72
Ipswich (C)	QLD	$172	$199	$165
Toodyay (S)	WA	$172	$198	$72
Port Hedland (T)	WA	$172	$198	$72

Elliston (DC)	SA	$172	$198	$72
Belmont (C)	WA	$171	$198	$165
Tweed (A)	NSW	$171	$198	$104
Narrogin (S)	WA	$171	$197	$72
Goyder (DC)	SA	$171	$197	$72
Yorke Peninsula (DC)	SA	$170	$197	$71
Greater Dandenong (C)	VIC	$170	$197	$164
Gunnedah (A)	NSW	$170	$196	$71
Flinders (M) (Tas.)	TAS	$169	$196	$40
Flinders Ranges (DC)	SA	$169	$196	$71
Wattle Range (DC)	SA	$169	$196	$71
Morawa (S)	WA	$169	$196	$71
Greater Bendigo (C)	VIC	$169	$195	$103
Southern Midlands (M)	TAS	$168	$195	$71
Narrandera (A)	NSW	$168	$195	$103
Northern Midlands (M)	TAS	$168	$194	$71
Maribyrnong (C)	VIC	$168	$194	$162
Parkes (A)	NSW	$168	$194	$71
Lachlan (A)	NSW	$167	$193	$39
Adelaide (C)	SA	$166	$193	$161
Wakefield (DC)	SA	$166	$192	$70
Unincorporated NT	NT	$166	$192	$39
Lockyer Valley (R)	QLD	$166	$192	$101
Donnybrook-Balingup (S)	WA	$165	$192	$70
Bogan (A)	NSW	$165	$192	$70
Mingenew (S)	WA	$165	$191	$70
Tamworth Regional (A)	NSW	$165	$191	$69
Swan (C)	WA	$164	$191	$159
Ararat (RC)	VIC	$164	$190	$69
Newcastle (C)	NSW	$163	$190	$100
Bridgetown-Greenbushes (S)	WA	$163	$190	$69
Central Coast (M) (Tas.)	TAS	$163	$189	$69
Yilgarn (S)	WA	$162	$189	$69
North Burnett (R)	QLD	$162	$189	$69
Burdekin (S)	QLD	$162	$189	$69
Rockingham (C)	WA	$162	$189	$157
Northern Grampians (S)	VIC	$162	$188	$68
Sorell (M)	TAS	$161	$188	$157
Bassendean (T)	WA	$161	$188	$156
Wongan-Ballidu (S)	WA	$161	$188	$68
Cloncurry (S)	QLD	$161	$187	$38
Port Macquarie-Hastings (A)	NSW	$160	$187	$68
Wellington (S)	VIC	$160	$187	$68
Shoalhaven (C)	NSW	$160	$186	$98
Warrnambool (C)	VIC	$159	$185	$67
Denmark (S)	WA	$158	$184	$67
Brookton (S)	WA	$157	$184	$67
Western Downs (R)	QLD	$157	$184	$67
Western Plains Regional (A)	NSW	$157	$184	$97
Victoria Park (T)	WA	$157	$183	$153
Benalla (RC)	VIC	$156	$183	$67
Victor Harbor (C)	SA	$156	$183	$66
Coorow (S)	WA	$155	$182	$66
Charles Sturt (C)	SA	$155	$182	$152
Manjimup (S)	WA	$155	$182	$66
Balonne (S)	QLD	$154	$181	$96
Wodonga (C)	VIC	$154	$181	$95
Murweh (S)	QLD	$154	$181	$37
Whitsunday (R)	QLD	$154	$181	$66
Alexandrina (DC)	SA	$153	$180	$65
Koorda (S)	WA	$152	$179	$37
Kellerberrin (S)	WA	$152	$179	$65
Yarriambiack (S)	VIC	$151	$178	$65
Dumbleyung (S)	WA	$151	$178	$65
Campaspe (S)	VIC	$151	$178	$65
Woodanilling (S)	WA	$151	$178	$65

Greater Geelong (C)	VIC	$151	$178	$94
Merredin (S)	WA	$151	$178	$64
Gundagai (A)	NSW	$150	$177	$64
Perth (C)	WA	$150	$177	$148
Marion (C)	SA	$150	$177	$147
Ballina (A)	NSW	$149	$176	$64
Bayswater (C)	WA	$149	$176	$147
Beverley (S)	WA	$149	$176	$64
Bega Valley (A)	NSW	$149	$176	$64
Boulia (S)	QLD	$148	$175	$36
Mallala (DC)	SA	$147	$174	$63
Mackay (R)	QLD	$147	$174	$92
West Tamar (M)	TAS	$147	$174	$63
Moira (S)	VIC	$147	$174	$63
Hepburn (S)	VIC	$147	$174	$63
Karoonda East Murray (DC)	SA	$146	$173	$63
Glamorgan/Spring Bay (M)	TAS	$145	$173	$63
Livingstone (S)	QLD	$145	$173	$91
Liverpool (C)	NSW	$145	$172	$143
Sunshine Coast (R)	QLD	$145	$172	$91
Moreton Bay (R)	QLD	$144	$171	$143
Campbelltown (C) (NSW)	NSW	$144	$171	$143
Goulburn Mulwaree (A)	NSW	$144	$171	$62
Wanneroo (C)	WA	$144	$171	$142
Hilltops (A)	NSW	$143	$170	$62
Mount Alexander (S)	VIC	$143	$170	$62
Southern Grampians (S)	VIC	$143	$170	$62
Kangaroo Island (DC)	SA	$143	$170	$35
Irwin (S)	WA	$143	$170	$62
Port Stephens (A)	NSW	$142	$169	$89
Gannawarra (S)	VIC	$142	$169	$61
Darebin (C)	VIC	$142	$169	$141
Albany (C)	WA	$142	$169	$61
Latrobe (M) (Tas.)	TAS	$142	$169	$61
Frankston (C)	VIC	$141	$169	$140
Mid-Western Regional (A)	NSW	$141	$169	$61
Wagga Wagga (C)	NSW	$141	$168	$89
Mount Remarkable (DC)	SA	$141	$168	$61
Wollongong (C)	NSW	$141	$168	$89
Hindmarsh (S)	VIC	$141	$168	$61
Loxton Waikerie (DC)	SA	$141	$168	$61
Cunderdin (S)	WA	$140	$168	$34
Wagait (S)	NT	$140	$167	$34
Meander Valley (M)	TAS	$140	$167	$61
Streaky Bay (DC)	SA	$140	$167	$61
Scenic Rim (R)	QLD	$139	$166	$88
Leeton (A)	NSW	$138	$166	$87
Edward River (A)	NSW	$138	$165	$60
West Torrens (C)	SA	$138	$165	$138
Swan Hill (RC)	VIC	$138	$165	$60
Noosa (S)	QLD	$137	$165	$60
Harvey (S)	WA	$137	$165	$60
Hobart (C)	TAS	$137	$165	$137
Toowoomba (R)	QLD	$137	$165	$87
Stirling (C)	WA	$137	$164	$137
Flinders (S) (Qld)	QLD	$137	$164	$34
Central Coast (C) (NSW)	NSW	$137	$164	$87
Kalgoorlie/Boulder (C)	WA	$136	$164	$59
Maitland (C)	NSW	$136	$163	$86
Kondinin (S)	WA	$136	$163	$33
Circular Head (M)	TAS	$135	$163	$33
Hay (A)	NSW	$135	$162	$59
Bathurst Regional (A)	NSW	$135	$162	$59
Shellharbour (C)	NSW	$134	$162	$85
Shark Bay (S)	WA	$134	$162	$33
Wangaratta (RC)	VIC	$134	$161	$59

Federation (A)	NSW	$134	$161	$59
Busselton (C)	WA	$133	$161	$58
Moreland (C)	VIC	$133	$161	$134
Yarra (C)	VIC	$133	$161	$134
Gingin (S)	WA	$133	$160	$58
Gold Coast (C)	QLD	$133	$160	$85
East Pilbara (S)	WA	$133	$160	$58
Weddin (A)	NSW	$133	$160	$58
Chapman Valley (S)	WA	$133	$160	$58
Clarence (C)	TAS	$132	$160	$133
Canterbury-Bankstown (A)	NSW	$132	$160	$133
Orange (C)	NSW	$132	$160	$84
West Arthur (S)	WA	$132	$160	$58
Cockburn (C)	WA	$132	$159	$133
Dungog (A)	NSW	$132	$159	$58
Berrigan (A)	NSW	$132	$159	$58
Baw Baw (S)	VIC	$132	$159	$58
Colac-Otway (S)	VIC	$131	$159	$58
Northern Areas (DC)	SA	$131	$158	$32
Snowy Valleys (A)	NSW	$131	$158	$57
Uralla (A)	NSW	$130	$158	$57
Forbes (A)	NSW	$130	$158	$57
Horsham (RC)	VIC	$130	$157	$57
Melton (C)	VIC	$130	$157	$131
Strathbogie (S)	VIC	$129	$157	$57
Mitchell (S)	VIC	$128	$156	$57
Whittlesea (C)	VIC	$128	$156	$130
Dowerin (S)	WA	$128	$156	$57
Gwydir (A)	NSW	$128	$155	$56
Towong (S)	VIC	$127	$155	$56
Dardanup (S)	WA	$127	$154	$56
Blacktown (C)	NSW	$126	$154	$128
Augusta-Margaret River (S)	WA	$125	$153	$56
Canning (C)	WA	$124	$152	$127
Buloke (S)	VIC	$124	$152	$55
Lake Macquarie (C)	NSW	$122	$150	$79
Vincent (C)	WA	$122	$150	$125
South Gippsland (S)	VIC	$122	$150	$55
Esperance (S)	WA	$122	$150	$55
Corangamite (S)	VIC	$122	$150	$54
Capel (S)	WA	$122	$150	$54
Dandaragan (S)	WA	$121	$149	$54
Murrindindi (S)	VIC	$121	$149	$54
West Wimmera (S)	VIC	$121	$149	$54
Three Springs (S)	WA	$121	$149	$54
Cumberland (A)	NSW	$121	$149	$124
Moorabool (S)	VIC	$119	$147	$123
Corrigin (S)	WA	$119	$147	$53
Coolamon (A)	NSW	$118	$146	$53
Singleton (A)	NSW	$118	$146	$77
Clare and Gilbert Valleys (DC)	SA	$118	$146	$53
Tumby Bay (DC)	SA	$118	$146	$53
Ravensthorpe (S)	WA	$117	$146	$53
Wyndham (C)	VIC	$117	$145	$121
Darwin (C)	NT	$117	$145	$121
Wickepin (S)	WA	$117	$145	$30
Westonia (S)	WA	$117	$145	$30
Walcha (A)	NSW	$117	$145	$53
Boyup Brook (S)	WA	$117	$145	$53
Palmerston (C)	NT	$116	$144	$120
Kulin (S)	WA	$116	$144	$52
Temora (A)	NSW	$115	$144	$52
Tea Tree Gully (C)	SA	$115	$143	$119
Casey (C)	VIC	$115	$143	$119
Boddington (S)	WA	$115	$143	$52
Bulloo (S)	QLD	$114	$143	$29

Hobsons Bay (C)	VIC	$114	$142	$118
Richmond (S)	QLD	$114	$142	$29
Cuballing (S)	WA	$113	$141	$51
Blayney (A)	NSW	$112	$141	$51
Mount Barker (DC)	SA	$112	$140	$51
Wandering (S)	WA	$111	$140	$51
Bruce Rock (S)	WA	$110	$139	$50
Penrith (C)	NSW	$110	$139	$116
Brisbane (C)	QLD	$110	$139	$115
Cobar (A)	NSW	$110	$138	$28
Light (RegC)	SA	$109	$138	$50
Goondiwindi (R)	QLD	$109	$138	$50
Upper Hunter Shire (A)	NSW	$109	$138	$50
Blackall-Tambo (R)	QLD	$109	$137	$28
Maranoa (R)	QLD	$109	$137	$50
Kingborough (M)	TAS	$108	$137	$114
South Perth (C)	WA	$108	$136	$114
Redland (C)	QLD	$108	$136	$113
Norwood Payneham St Peters (C)	SA	$107	$135	$113
Campbelltown (C) (SA)	SA	$107	$135	$113
Snowy Monaro Regional (A)	NSW	$106	$135	$49
Moyne (S)	VIC	$106	$134	$49
Mundaring (S)	WA	$106	$134	$112
Bland (A)	NSW	$106	$134	$49
Winton (S)	QLD	$106	$134	$27
Franklin Harbour (DC)	SA	$105	$134	$49
Lockhart (A)	NSW	$105	$134	$49
Naracoorte and Lucindale (DC)	SA	$105	$133	$48
Kalamunda (C)	WA	$105	$133	$111
Lower Eyre Peninsula (DC)	SA	$104	$133	$48
Cardinia (S)	VIC	$104	$133	$111
Griffith (C)	NSW	$104	$132	$70
Indigo (S)	VIC	$104	$132	$70
Cranbrook (S)	WA	$103	$132	$48
Prospect (C)	SA	$103	$132	$110
Carrathool (A)	NSW	$103	$132	$48
Subiaco (C)	WA	$103	$132	$110
Kojonup (S)	WA	$103	$131	$27
Golden Plains (S)	VIC	$103	$131	$69
Alpine (S)	VIC	$102	$131	$47
Mansfield (S)	VIC	$102	$131	$47
Greater Hume Shire (A)	NSW	$102	$130	$47
Port Phillip (C)	VIC	$101	$129	$108
Oberon (A)	NSW	$101	$129	$68
Diamantina (S)	QLD	$100	$129	$26
Holdfast Bay (C)	SA	$100	$129	$107
Moonee Valley (C)	VIC	$100	$128	$107
Banana (S)	QLD	$100	$128	$47
Junee (A)	NSW	$99	$128	$47
Orroroo/Carrieton (DC)	SA	$99	$128	$26
Serpentine-Jarrahdale (S)	WA	$98	$127	$106
Southern Mallee (DC)	SA	$98	$126	$46
Central Highlands (R) (Qld)	QLD	$97	$126	$46
Etheridge (S)	QLD	$97	$126	$26
Mornington Peninsula (S)	VIC	$97	$126	$105
Barossa (DC)	SA	$97	$125	$46
Murray River (A)	NSW	$96	$125	$45
Yarra Ranges (S)	VIC	$96	$125	$104
Exmouth (S)	WA	$96	$124	$25
Parramatta (C)	NSW	$96	$124	$104
Robe (DC)	SA	$95	$124	$45
Blue Mountains (C)	NSW	$95	$124	$103
Kingston (DC) (SA)	SA	$95	$124	$45
Mitcham (C)	SA	$94	$123	$103
Knox (C)	VIC	$93	$122	$102

Maroondah (C)	VIC	$93	$121	$101
Hawkesbury (C)	NSW	$92	$121	$101
Barcoo (S)	QLD	$92	$121	$25
Banyule (C)	VIC	$92	$121	$101
Joondalup (C)	WA	$91	$120	$100
Grant (DC)	SA	$90	$119	$43
Inner West (A)	NSW	$89	$118	$98
Narembeen (S)	WA	$88	$117	$24
Balranald (A)	NSW	$88	$117	$43
Longreach (R)	QLD	$88	$117	$24
Barcaldine (R)	QLD	$88	$117	$24
Karratha (C)	WA	$87	$116	$42
Queenscliffe (B)	VIC	$87	$116	$61
Walkerville (M)	SA	$86	$115	$96
Unincorporated NSW	NSW	$86	$115	$23
Chittering (S)	WA	$85	$115	$42
King Island (M)	TAS	$85	$114	$23
Melbourne (C)	VIC	$85	$114	$95
Kingston (C) (Vic.)	VIC	$84	$113	$94
Murrumbidgee (A)	NSW	$84	$113	$41
Mosman Park (T)	WA	$84	$113	$94
Quilpie (S)	QLD	$83	$112	$23
Cabonne (A)	NSW	$82	$111	$40
Tatiara (DC)	SA	$82	$111	$40
Dalwallinu (S)	WA	$82	$111	$23
Sydney (C)	NSW	$81	$110	$92
Burwood (A)	NSW	$81	$110	$92
Upper Lachlan Shire (A)	NSW	$80	$109	$40
Unley (C)	SA	$79	$109	$91
East Fremantle (T)	WA	$79	$108	$90
Litchfield (M)	NT	$78	$108	$90
Melville (C)	WA	$78	$107	$89
Cleve (DC)	SA	$77	$106	$39
Adelaide Hills (DC)	SA	$76	$106	$88
Wudinna (DC)	SA	$76	$105	$38
Unincorporated ACT	ACT	$73	$103	$86
Strathfield (A)	NSW	$73	$103	$85
Monash (C)	VIC	$73	$102	$85
Georges River (A)	NSW	$72	$102	$85
Whitehorse (C)	VIC	$72	$102	$85
Macedon Ranges (S)	VIC	$71	$101	$37
Surf Coast (S)	VIC	$69	$98	$36
Kiama (A)	NSW	$69	$98	$36
Wollondilly (A)	NSW	$67	$97	$81
Queanbeyan-Palerang Regional (A)	NSW	$65	$95	$50
Manningham (C)	VIC	$65	$95	$79
Mukinbudin (S)	WA	$65	$95	$34
Mount Marshall (S)	WA	$64	$94	$34
Stonnington (C)	VIC	$63	$93	$78
Yass Valley (A)	NSW	$62	$92	$48
Glen Eira (C)	VIC	$62	$92	$76
McKinlay (S)	QLD	$61	$91	$19
Camden (A)	NSW	$61	$91	$76
Wingecarribee (A)	NSW	$61	$91	$48
Burnside (C)	SA	$60	$90	$75
Ryde (C)	NSW	$59	$89	$74
Nillumbik (S)	VIC	$59	$89	$74
Randwick (C)	NSW	$57	$87	$72
Lake Grace (S)	WA	$57	$87	$18
Isaac (R)	QLD	$56	$86	$31
Kimba (DC)	SA	$55	$85	$31
Claremont (T)	WA	$54	$84	$70
Victoria Plains (S)	WA	$53	$83	$30
Williams (S)	WA	$52	$82	$30
Boroondara (C)	VIC	$50	$80	$67

Cambridge (T)	WA	$49	$79	$66
Hornsby (A)	NSW	$48	$79	$66
Bayside (C)	VIC	$47	$60	$50
Sutherland Shire (A)	NSW	$47	$77	$64
Roxby Downs (M)	SA	$46	$76	$16
Nedlands (C)	WA	$46	$76	$63
Jerramungup (S)	WA	$44	$74	$27
Kent (S)	WA	$43	$74	$15
Canada Bay (A)	NSW	$43	$73	$61
The Hills Shire (A)	NSW	$43	$73	$61
Weipa (T)	QLD	$43	$73	$15
Waverley (A)	NSW	$40	$71	$59
Unincorporated Vic	VIC	$39	$69	$14
Perenjori (S)	WA	$38	$69	$25
Cottesloe (T)	WA	$37	$68	$57
Willoughby (C)	NSW	$37	$67	$56
Northern Beaches (A)	NSW	$35	$66	$55
Hunters Hill (A)	NSW	$32	$63	$52
Woollahra (A)	NSW	$31	$62	$51
North Sydney (A)	NSW	$31	$61	$51
Lane Cove (A)	NSW	$30	$61	$51
Peppermint Grove (S)	WA	$30	$61	$50
Ashburton (S)	WA	$29	$60	$22
Bayside (C)	NSW	$29	$60	$50
Ku-ring-gai (A)	NSW	$25	$56	$47
Mosman (A)	NSW	$21	$52	$43
Mapoon (S)	QLD	$0	$32	$7
Maralinga Tjarutja (AC)	SA	$0	$32	$7
Murchison (S)	WA	$0	$32	$12

Source: Deloitte Access Economics

Table A.2: Outcomes for key economic indicators for each local government area, Total increase ($m), 2018-19

Local government area	State	Disposable income	Consumption	Economic output
Brisbane (C)	QLD	$134.40	$168.86	$73.62
Gold Coast (C)	QLD	$79.44	$95.92	$26.47
Moreton Bay (R)	QLD	$65.27	$77.56	$33.82
Logan (C)	QLD	$57.34	$65.75	$28.67
Fairfield (C)	NSW	$51.03	$56.09	$24.46
Canterbury-Bankstown (A)	NSW	$49.16	$59.38	$25.89
Central Coast (C) (NSW)	NSW	$46.63	$55.98	$15.45
Sunshine Coast (R)	QLD	$45.48	$54.03	$14.91
Blacktown (C)	NSW	$45.33	$55.34	$24.13
Hume (C)	VIC	$41.37	$47.00	$20.49
Brimbank (C)	VIC	$41.14	$46.53	$20.29
Casey (C)	VIC	$38.14	$47.48	$20.70
Greater Geelong (C)	VIC	$37.42	$44.11	$12.17
Ipswich (C)	QLD	$35.92	$41.39	$18.05
Townsville (C)	QLD	$35.57	$40.64	$11.22
Salisbury (C)	SAU	$33.28	$36.74	$16.02
Cairns (R)	QLD	$32.66	$36.89	$10.18
Liverpool (C)	NSW	$31.88	$37.85	$16.50
Onkaparinga (C)	SAU	$31.70	$36.11	$15.74
Unincorporated ACT	ACT	$30.51	$42.81	$18.67
Wollongong (C)	NSW	$30.40	$36.29	$10.02
Stirling (C)	WAU	$30.25	$36.30	$15.83
Wanneroo (C)	WAU	$28.81	$34.26	$14.94
Wyndham (C)	VIC	$28.78	$35.66	$15.55
Greater Dandenong (C)	VIC	$28.32	$32.70	$14.26
Playford (C)	SAU	$28.30	$30.33	$13.22
Cumberland (A)	NSW	$28.24	$34.77	$15.16
Whittlesea (C)	VIC	$28.10	$34.17	$14.90
Newcastle (C)	NSW	$26.78	$31.14	$8.59

Port Adelaide Enfield (C)	SAU	$26.31	$29.44	$12.84
Fraser Coast (R)	QLD	$25.63	$28.14	$5.35
Lake Macquarie (C)	NSW	$25.21	$30.95	$8.54
Campbelltown (C) (NSW)	NSW	$23.90	$28.41	$12.38
Moreland (C)	VIC	$23.85	$28.78	$12.55
Parramatta (C)	NSW	$23.52	$30.59	$13.34
Swan (C)	WAU	$23.16	$26.90	$11.73
Toowoomba (R)	QLD	$23.05	$27.66	$7.63
Penrith (C)	NSW	$22.82	$28.67	$12.50
Darebin (C)	VIC	$22.76	$27.14	$11.83
Bundaberg (R)	QLD	$22.53	$24.85	$4.72
Gosnells (C)	WAU	$22.24	$25.45	$11.10
Rockingham (C)	WAU	$21.39	$24.89	$10.85
Frankston (C)	VIC	$20.16	$24.05	$10.48
Melton (C)	VIC	$19.57	$23.74	$10.35
Greater Bendigo (C)	VIC	$19.48	$22.51	$6.21
Ballarat (C)	VIC	$19.31	$22.09	$6.10
Sydney (C)	NSW	$19.13	$26.02	$11.34
Mid-Coast (A)	NSW	$18.93	$21.30	$5.88
Charles Sturt (C)	SAU	$18.01	$21.13	$9.21
Latrobe (C) (Vic.)	VIC	$17.71	$19.54	$3.72
Inner West (A)	NSW	$17.46	$23.17	$10.10
Mackay (R)	QLD	$17.40	$20.61	$5.69
Rockhampton (R)	QLD	$16.82	$18.89	$3.59
Redland (C)	QLD	$16.79	$21.21	$9.25
Shoalhaven (C)	NSW	$16.59	$19.36	$5.34
Mandurah (C)	WAU	$16.36	$18.51	$8.07
Tweed (A)	NSW	$16.36	$18.87	$5.21
Armadale (C)	WAU	$16.34	$18.53	$8.08
Launceston (C)	TAS	$16.28	$17.90	$3.40
Mornington Peninsula (S)	VIC	$16.06	$20.81	$9.07
Yarra Ranges (S)	VIC	$15.33	$19.90	$8.68
Knox (C)	VIC	$15.29	$20.03	$8.73
Maribyrnong (C)	VIC	$15.27	$17.67	$7.71
Coffs Harbour (C)	NSW	$14.83	$16.78	$4.63
Cockburn (C)	WAU	$14.66	$17.72	$7.73
Joondalup (C)	WAU	$14.61	$19.26	$8.40
Monash (C)	VIC	$14.49	$20.38	$8.88
Melbourne (C)	VIC	$13.77	$18.49	$8.06
Marion (C)	SAU	$13.77	$16.24	$7.08
Kingston (C) (Vic.)	VIC	$13.71	$18.46	$8.05
Gladstone (R)	QLD	$13.26	$14.86	$2.82
Port Macquarie-Hastings (A)	NSW	$13.13	$15.31	$2.91
Yarra (C)	VIC	$13.00	$15.69	$6.84
Whitehorse (C)	VIC	$12.73	$17.92	$7.81
Moonee Valley (C)	VIC	$12.68	$16.32	$7.12
Banyule (C)	VIC	$12.04	$15.83	$6.90
Canning (C)	WAU	$11.63	$14.24	$6.21
Tea Tree Gully (C)	SAU	$11.54	$14.36	$6.26
Greater Shepparton (C)	VIC	$11.53	$13.27	$2.52
Georges River (A)	NSW	$11.44	$16.11	$7.02
Port Phillip (C)	VIC	$11.27	$14.47	$6.31
Gympie (R)	QLD	$11.17	$12.45	$3.44
Maitland (C)	NSW	$11.16	$13.41	$3.70
Lismore (C)	NSW	$11.11	$12.16	$2.31
Clarence Valley (A)	NSW	$11.02	$12.31	$2.34
Cessnock (C)	NSW	$10.97	$12.46	$3.44
Hobsons Bay (C)	VIC	$10.96	$13.67	$5.96
Maroondah (C)	VIC	$10.94	$14.34	$6.25
Glenorchy (C)	TAS	$10.87	$12.02	$5.24
Cardinia (S)	VIC	$10.82	$13.78	$6.01
Sutherland Shire (A)	NSW	$10.74	$17.70	$7.72
Mildura (RC)	VIC	$10.35	$11.79	$2.24
Bayswater (C)	WAU	$10.28	$12.14	$5.29
Port Stephens (A)	NSW	$10.27	$12.24	$3.38
Tamworth Regional (A)	NSW	$10.23	$11.88	$2.26

Darwin (C)	NTE	$9.91	$12.29	$5.36
Albury (C)	NSW	$9.91	$11.29	$2.15
Shellharbour (C)	NSW	$9.63	$11.61	$3.20
Greater Geraldton (C)	WAU	$9.53	$10.47	$1.99
Glen Eira (C)	VIC	$9.48	$14.08	$6.14
Northern Beaches (A)	NSW	$9.48	$17.84	$7.78
East Gippsland (S)	VIC	$9.22	$10.41	$1.98
Wagga Wagga (C)	NSW	$9.18	$10.95	$3.02
Boroondara (C)	VIC	$9.01	$14.52	$6.33
Kwinana (C)	WAU	$8.71	$9.77	$4.26
Randwick (C)	NSW	$8.69	$13.30	$5.80
Byron (A)	NSW	$8.44	$9.24	$1.76
West Torrens (C)	SAU	$8.25	$9.89	$4.31
Western Plains Regional (A)	NSW	$8.25	$9.66	$2.66
Manningham (C)	VIC	$8.24	$11.99	$5.23
Melville (C)	WAU	$8.00	$11.01	$4.80
Noosa (S)	QLD	$7.60	$9.11	$1.73
Blue Mountains (C)	NSW	$7.57	$9.86	$4.30
Bunbury (C)	WAU	$7.47	$8.26	$1.57
Alice Springs (T)	NTE	$7.47	$8.08	$0.86
Clarence (C)	TAS	$7.44	$8.99	$3.92
Ryde (C)	NSW	$7.42	$11.20	$4.88
Stonnington (C)	VIC	$7.34	$10.79	$4.70
Hornsby (A)	NSW	$7.29	$11.86	$5.17
Hobart (C)	TAS	$7.23	$8.67	$3.78
The Hills Shire (A)	NSW	$7.23	$12.38	$5.40
Belmont (C)	WAU	$7.12	$8.21	$3.58
Wellington (S)	VIC	$7.09	$8.27	$1.57
Kempsey (A)	NSW	$6.83	$7.56	$1.44
Whyalla (C)	SAU	$6.77	$7.26	$1.38
Lockyer Valley (R)	QLD	$6.72	$7.80	$2.15
Baw Baw (S)	VIC	$6.72	$8.13	$1.54
Eurobodalla (A)	NSW	$6.68	$7.69	$1.46
Ballina (A)	NSW	$6.49	$7.67	$1.46
South Burnett (R)	QLD	$6.45	$7.30	$1.39
Wodonga (C)	VIC	$6.34	$7.44	$2.05
Mitcham (C)	SAU	$6.33	$8.26	$3.60
Armidale Regional (A)	NSW	$6.24	$7.02	$1.33
Kalamunda (C)	WAU	$6.23	$7.92	$3.45
Southern Downs (R)	QLD	$6.20	$7.14	$1.36
Hawkesbury (C)	NSW	$6.18	$8.12	$3.54
Bass Coast (S)	VIC	$6.15	$7.05	$1.34
Cassowary Coast (R)	QLD	$6.14	$6.90	$1.31
Fremantle (C)	WAU	$5.94	$6.73	$2.93
Scenic Rim (R)	QLD	$5.86	$7.02	$1.94
Bathurst Regional (A)	NSW	$5.83	$7.02	$1.34
Victoria Park (T)	WAU	$5.76	$6.75	$2.94
Campaspe (S)	VIC	$5.73	$6.76	$1.28
East Arnhem (R)	NTE	$5.65	$5.80	$0.62
Devonport (C)	TAS	$5.61	$6.24	$1.19
Mitchell (S)	VIC	$5.56	$6.77	$1.29
Orange (C)	NSW	$5.56	$6.72	$1.86
Warrnambool (C)	VIC	$5.55	$6.49	$1.23
Campbelltown (C) (SA)	SAU	$5.50	$6.96	$3.04
Mareeba (S)	QLD	$5.49	$6.03	$1.67
Livingstone (S)	QLD	$5.49	$6.52	$1.80
Western Downs (R)	QLD	$5.48	$6.41	$1.22
Camden (A)	NSW	$5.41	$8.04	$3.51
Whitsunday (R)	QLD	$5.41	$6.35	$1.21
Albany (C)	WAU	$5.35	$6.38	$1.21
Tablelands (R)	QLD	$5.18	$5.83	$1.11
Busselton (C)	WAU	$5.12	$6.18	$1.17
Bega Valley (A)	NSW	$5.11	$6.05	$1.15
Mount Gambier (C)	SAU	$5.10	$5.80	$1.10
Murray Bridge (RC)	SAU	$5.09	$5.62	$1.07
Nambucca (A)	NSW	$5.00	$5.47	$1.51

Bayside (C)	VIC	$5.00	$10.32	$4.50
Bayside (C)	VIC	$5.00	$10.32	$4.50
Richmond Valley (A)	NSW	$4.95	$5.53	$1.05
Port Pirie City and Dists (M)	SAU	$4.78	$5.19	$0.99
South Perth (C)	WAU	$4.76	$6.01	$2.62
Somerset (R)	QLD	$4.58	$5.25	$2.29
West Arnhem (R)	NTE	$4.57	$4.65	$0.50
Burnie (C)	TAS	$4.47	$4.95	$0.94
Goulburn Mulwaree (A)	NSW	$4.43	$5.26	$1.00
Broome (S)	WAU	$4.39	$4.79	$0.91
Vincent (C)	WAU	$4.38	$5.38	$2.35
Moira (S)	VIC	$4.38	$5.19	$0.99
Gawler (T)	SAU	$4.38	$4.99	$2.18
Palmerston (C)	NTE	$4.26	$5.29	$2.31
Kalgoorlie/Boulder (C)	WAU	$4.19	$5.04	$0.96
Perth (C)	WAU	$4.13	$4.88	$2.13
Mundaring (S)	WAU	$4.13	$5.24	$2.28
Alexandrina (DC)	SAU	$4.12	$4.84	$0.92
Canada Bay (A)	NSW	$4.07	$6.96	$3.03
Brighton (M)	TAS	$4.06	$4.47	$1.95
Moorabool (S)	VIC	$4.05	$4.99	$2.18
Kingborough (M)	TAS	$4.01	$5.06	$2.21
Adelaide (C)	SAU	$3.99	$4.63	$2.02
Derby-West Kimberley (S)	WAU	$3.99	$4.12	$0.78
Port Augusta (C)	SAU	$3.99	$4.32	$0.82
Lithgow (C)	NSW	$3.97	$4.54	$1.25
Broken Hill (C)	NSW	$3.97	$4.41	$0.47
Norwood Payneham St Peters (C)	SAU	$3.92	$4.96	$2.16
Wangaratta (RC)	VIC	$3.91	$4.72	$0.90
Roper Gulf (R)	NTE	$3.91	$4.02	$0.43
Queanbeyan-Palerang Regional (A)	NSW	$3.91	$5.68	$1.57
Mount Barker (DC)	SAU	$3.89	$4.87	$0.93
MacDonnell (R)	NTE	$3.88	$3.97	$0.42
Nillumbik (S)	VIC	$3.86	$5.83	$2.54
Mount Isa (C)	QLD	$3.84	$4.32	$0.46
Harvey (S)	WAU	$3.78	$4.53	$0.86
Holdfast Bay (C)	SAU	$3.67	$4.72	$2.06
South Gippsland (S)	VIC	$3.61	$4.43	$0.84
Central Coast (M) (Tas.)	TAS	$3.59	$4.18	$0.79
Glenelg (S)	VIC	$3.55	$4.07	$0.77
Barkly (R)	NTE	$3.54	$3.67	$0.39
Mid-Western Regional (A)	NSW	$3.54	$4.23	$0.80
West Tamar (M)	TAS	$3.52	$4.17	$0.79
Copper Coast (DC)	SAU	$3.49	$3.84	$0.73
Macedon Ranges (S)	VIC	$3.49	$4.94	$0.94
Wollondilly (A)	NSW	$3.45	$4.98	$2.17
Huon Valley (M)	TAS	$3.23	$3.67	$1.60
Murray (S)	WAU	$3.23	$3.67	$1.60
Strathfield (A)	NSW	$3.22	$4.52	$1.97
Burwood (A)	NSW	$3.19	$4.35	$1.90
Inverell (A)	NSW	$3.18	$3.62	$0.69
Ku-ring-gai (A)	NSW	$3.14	$7.06	$3.08
Central Goldfields (S)	VIC	$3.13	$3.45	$0.66
Unley (C)	SAU	$3.11	$4.26	$1.86
Wingecarribee (A)	NSW	$3.06	$4.56	$1.26
Adelaide Hills (DC)	SAU	$3.03	$4.20	$1.83
Moree Plains (A)	NSW	$2.98	$3.31	$0.35
Waverley (A)	NSW	$2.97	$5.23	$2.28
Willoughby (C)	NSW	$2.94	$5.41	$2.36
Central Desert (R)	NTE	$2.92	$2.96	$0.32
Swan Hill (RC)	VIC	$2.91	$3.49	$0.66
Serpentine-Jarrahdale (S)	WAU	$2.91	$3.75	$1.64
Muswellbrook (A)	NSW	$2.87	$3.31	$0.63
Colac-Otway (S)	VIC	$2.85	$3.45	$0.66

Port Lincoln (C)	SAU	$2.84	$3.21	$0.61
Katherine (T)	NTE	$2.83	$3.08	$0.58
Burdekin (S)	QLD	$2.82	$3.28	$0.62
Central Highlands (R) (Qld)	QLD	$2.82	$3.65	$0.69
Singleton (A)	NSW	$2.80	$3.46	$0.96
Griffith (C)	NSW	$2.79	$3.55	$0.98
Mount Alexander (S)	VIC	$2.78	$3.31	$0.63
Burnside (C)	SAU	$2.77	$4.14	$1.81
Meander Valley (M)	TAS	$2.76	$3.30	$0.63
Hilltops (A)	NSW	$2.73	$3.24	$0.62
Bellingen (A)	NSW	$2.69	$3.02	$0.83
Kyogle (A)	NSW	$2.62	$2.82	$0.54
Northam (S)	WAU	$2.61	$2.89	$0.55
Horsham (RC)	VIC	$2.61	$3.17	$0.60
Port Hedland (T)	WAU	$2.58	$2.98	$0.57
Parkes (A)	NSW	$2.53	$2.92	$0.56
Bassendean (T)	WAU	$2.52	$2.93	$1.28
Charters Towers (R)	QLD	$2.43	$2.74	$0.52
Waratah/Wynyard (M)	TAS	$2.43	$2.79	$0.53
Douglas (S)	QLD	$2.43	$2.74	$0.52
Sorell (M)	TAS	$2.38	$2.78	$1.21
Barossa (DC)	SAU	$2.38	$3.09	$0.59
Victor Harbor (C)	SAU	$2.38	$2.78	$0.53
Narrabri (A)	NSW	$2.37	$2.73	$0.52
Walgett (A)	NSW	$2.36	$2.49	$0.27
Golden Plains (S)	VIC	$2.35	$3.00	$0.83
Southern Grampians (S)	VIC	$2.33	$2.77	$0.53
Hepburn (S)	VIC	$2.33	$2.76	$0.52
Cowra (A)	NSW	$2.30	$2.63	$0.50
Yarrabah (S)	QLD	$2.30	$2.31	$0.25
West Daly (R)	NTE	$2.29	$2.34	$0.25
North Sydney (A)	NSW	$2.25	$4.53	$1.98
Derwent Valley (M)	TAS	$2.24	$2.49	$1.09
Northern Midlands (M)	TAS	$2.23	$2.58	$0.49
Snowy Monaro Regional (A)	NSW	$2.23	$2.82	$0.54
Berri and Barmera (DC)	SAU	$2.22	$2.49	$0.47
Glen Innes Severn (A)	NSW	$2.21	$2.43	$0.46
Benalla (RC)	VIC	$2.21	$2.59	$0.49
Collie (S)	WAU	$2.20	$2.41	$0.46
Prospect (C)	SAU	$2.19	$2.79	$1.22
Capel (S)	WAU	$2.19	$2.69	$0.51
Surf Coast (S)	VIC	$2.19	$3.13	$0.59
Gunnedah (A)	NSW	$2.16	$2.50	$0.47
Wyndham-East Kimberley (S)	WAU	$2.15	$2.31	$0.25
Tiwi Islands (R)	NTE	$2.08	$2.10	$0.23
Torres Strait Island (R)	QLD	$2.05	$2.14	$0.23
Wattle Range (DC)	SAU	$2.04	$2.35	$0.45
Renmark Paringa (DC)	SAU	$2.00	$2.25	$0.43
Litchfield (M)	NTE	$2.00	$2.74	$1.20
Mid Murray (DC)	SAU	$1.99	$2.21	$0.42
Corangamite (S)	VIC	$1.99	$2.44	$0.46
Hinchinbrook (S)	QLD	$1.94	$2.23	$0.42
Ararat (RC)	VIC	$1.94	$2.26	$0.43
Karratha (C)	WAU	$1.94	$2.59	$0.49
Yorke Peninsula (DC)	SAU	$1.93	$2.23	$0.42
Snowy Valleys (A)	NSW	$1.92	$2.33	$0.44
Halls Creek (S)	WAU	$1.90	$1.95	$0.21
Augusta-Margaret River (S)	WAU	$1.90	$2.32	$0.44
Northern Grampians (S)	VIC	$1.89	$2.20	$0.42
Break O'Day (M)	TAS	$1.88	$2.01	$0.22
George Town (M)	TAS	$1.87	$2.03	$0.39
Dardanup (S)	WAU	$1.85	$2.25	$0.43
Woollahra (A)	NSW	$1.82	$3.66	$1.60
Moyne (S)	VIC	$1.80	$2.28	$0.43
Warrumbungle Shire (A)	NSW	$1.79	$2.03	$0.39
Subiaco (C)	WAU	$1.78	$2.28	$0.99

Esperance (S)	WAU	$1.77	$2.17	$0.41
North Burnett (R)	QLD	$1.74	$2.03	$0.39
Murrindindi (S)	VIC	$1.74	$2.14	$0.41
Tenterfield (A)	NSW	$1.72	$1.88	$0.36
Gundagai (A)	NSW	$1.71	$2.01	$0.38
Indigo (S)	VIC	$1.70	$2.17	$0.60
Federation (A)	NSW	$1.67	$2.02	$0.38
Light (RegC)	SAU	$1.67	$2.10	$0.40
Cook (S)	QLD	$1.67	$1.76	$0.19
Loxton Waikerie (DC)	SAU	$1.66	$1.98	$0.38
Leeton (A)	NSW	$1.60	$1.91	$0.53
Latrobe (M) (Tas.)	TAS	$1.59	$1.89	$0.36
Upper Hunter Shire (A)	NSW	$1.58	$1.99	$0.38
Kiama (A)	NSW	$1.55	$2.22	$0.42
Carnarvon (S)	WAU	$1.54	$1.66	$0.18
Gannawarra (S)	VIC	$1.52	$1.81	$0.34
Liverpool Plains (A)	NSW	$1.51	$1.72	$0.33
East Pilbara (S)	WAU	$1.47	$1.77	$0.34
Banana (S)	QLD	$1.46	$1.88	$0.36
Manjimup (S)	WAU	$1.45	$1.70	$0.32
Loddon (S)	VIC	$1.44	$1.63	$0.31
Wentworth (A)	NSW	$1.42	$1.60	$0.30
Maranoa (R)	QLD	$1.41	$1.78	$0.34
Cambridge (T)	WAU	$1.39	$2.25	$0.98
Strathbogie (S)	VIC	$1.37	$1.66	$0.32
West Coast (M)	TAS	$1.34	$1.43	$0.15
Mallala (DC)	SAU	$1.33	$1.58	$0.30
Alpine (S)	VIC	$1.30	$1.66	$0.32
Forbes (A)	NSW	$1.29	$1.57	$0.30
Pyrenees (S)	VIC	$1.29	$1.48	$0.28
Dorset (M)	TAS	$1.28	$1.45	$0.28
Ngaanyatjarraku (S)	WAU	$1.27	$1.28	$0.14
Unincorporated NT	NTE	$1.26	$1.46	$0.16
Edward River (A)	NSW	$1.24	$1.49	$0.28
Dungog (A)	NSW	$1.23	$1.48	$0.28
Palm Island (S)	QLD	$1.21	$1.26	$0.13
Kentish (M)	TAS	$1.21	$1.37	$0.26
Isaac (R)	QLD	$1.20	$1.84	$0.35
Lane Cove (A)	NSW	$1.19	$2.40	$1.05
Goondiwindi (R)	QLD	$1.19	$1.50	$0.28
Coonamble (A)	NSW	$1.19	$1.28	$0.24
Narromine (A)	NSW	$1.18	$1.36	$0.26
Murray River (A)	NSW	$1.16	$1.51	$0.29
Aurukun (S)	QLD	$1.16	$1.17	$0.22
Wakefield (DC)	SAU	$1.15	$1.34	$0.25
Berrigan (A)	NSW	$1.15	$1.39	$0.26
Cabonne (A)	NSW	$1.13	$1.53	$0.29
Circular Head (M)	TAS	$1.11	$1.34	$0.14
Victoria Daly (R)	NTE	$1.11	$1.18	$0.13
Anangu Pitjantjatjara (AC)	SAU	$1.11	$1.15	$0.12
Clare and Gilbert Valleys (DC)	SAU	$1.10	$1.36	$0.26
Greater Hume Shire (A)	NSW	$1.09	$1.39	$0.27
Yass Valley (A)	NSW	$1.05	$1.56	$0.43
Lachlan (A)	NSW	$1.04	$1.21	$0.13
Unincorporated SA	SAU	$1.04	$1.12	$0.12
Southern Midlands (M)	TAS	$1.04	$1.20	$0.23
Nedlands (C)	WAU	$1.03	$1.72	$0.75
The Coorong (DC)	SAU	$1.03	$1.17	$0.22
Yarriambiack (S)	VIC	$1.02	$1.21	$0.23
Narrandera (A)	NSW	$1.01	$1.17	$0.32
Ceduna (DC)	SAU	$1.00	$1.08	$0.21
Donnybrook-Balingup (S)	WAU	$0.99	$1.15	$0.22
Northern Peninsula Area (R)	QLD	$0.99	$1.06	$0.11
Denmark (S)	WAU	$0.96	$1.12	$0.21
Woorabinda (S)	QLD	$0.95	$0.95	$0.10
Yankalilla (DC)	SAU	$0.95	$1.09	$0.21

Katanning (S)	WAU	$0.94	$1.04	$0.20
Plantagenet (S)	WAU	$0.93	$1.07	$0.20
Naracoorte and Lucindale (DC)	SAU	$0.91	$1.15	$0.22
Mansfield (S)	VIC	$0.90	$1.16	$0.22
Narrogin (S)	WAU	$0.90	$1.03	$0.20
Waroona (S)	WAU	$0.89	$1.00	$0.19
Cherbourg (S)	QLD	$0.89	$0.90	$0.17
Torres (S)	QLD	$0.87	$0.96	$0.10
Blayney (A)	NSW	$0.84	$1.05	$0.20
Coober Pedy (DC)	SAU	$0.82	$0.86	$0.09
Carpentaria (S)	QLD	$0.82	$0.86	$0.09
Gilgandra (A)	NSW	$0.81	$0.92	$0.10
Hindmarsh (S)	VIC	$0.81	$0.97	$0.18
Uralla (A)	NSW	$0.80	$0.98	$0.19
Doomadgee (S)	QLD	$0.79	$0.81	$0.09
Toodyay (S)	WAU	$0.78	$0.90	$0.17
Buloke (S)	VIC	$0.78	$0.95	$0.18
Mosman Park (T)	WAU	$0.77	$1.04	$0.45
Towong (S)	VIC	$0.77	$0.94	$0.18
Kowanyama (S)	QLD	$0.77	$0.77	$0.08
Bridgetown-Greenbushes (S)	WAU	$0.76	$0.89	$0.17
Grant (DC)	SAU	$0.76	$1.00	$0.19
Mornington (S)	QLD	$0.76	$0.77	$0.08
Temora (A)	NSW	$0.73	$0.91	$0.17
Goyder (DC)	SAU	$0.73	$0.84	$0.16
Gingin (S)	WAU	$0.70	$0.85	$0.16
Kangaroo Island (DC)	SAU	$0.70	$0.84	$0.09
Hope Vale (S)	QLD	$0.70	$0.71	$0.08
Coolgardie (S)	WAU	$0.69	$0.78	$0.15
Gwydir (A)	NSW	$0.69	$0.83	$0.16
Walkerville (M)	SAU	$0.69	$0.92	$0.40
Balonne (S)	QLD	$0.68	$0.80	$0.22
Northampton (S)	WAU	$0.68	$0.76	$0.15
Murweh (S)	QLD	$0.67	$0.79	$0.08
Glamorgan/Spring Bay (M)	TAS	$0.67	$0.79	$0.15
Junee (A)	NSW	$0.66	$0.85	$0.16
Central Darling (A)	NSW	$0.65	$0.69	$0.07
Bourke (A)	NSW	$0.65	$0.71	$0.08
Upper Lachlan Shire (A)	NSW	$0.64	$0.87	$0.17
Bland (A)	NSW	$0.64	$0.81	$0.15
Mosman (A)	NSW	$0.63	$1.59	$0.69
York (S)	WAU	$0.63	$0.73	$0.14
Peterborough (DC)	SAU	$0.63	$0.66	$0.13
East Fremantle (T)	WAU	$0.62	$0.86	$0.37
Meekatharra (S)	WAU	$0.61	$0.63	$0.07
Northern Areas (DC)	SAU	$0.60	$0.73	$0.08
Lower Eyre Peninsula (DC)	SAU	$0.60	$0.76	$0.15
Warren (A)	NSW	$0.58	$0.65	$0.07
Claremont (T)	WAU	$0.57	$0.89	$0.39
Tatiara (DC)	SAU	$0.56	$0.76	$0.14
Brewarrina (A)	NSW	$0.55	$0.59	$0.06
Oberon (A)	NSW	$0.55	$0.71	$0.20
Coolamon (A)	NSW	$0.52	$0.65	$0.12
Cobar (A)	NSW	$0.52	$0.66	$0.07
Irwin (S)	WAU	$0.52	$0.62	$0.12
Merredin (S)	WAU	$0.52	$0.61	$0.12
Cloncurry (S)	QLD	$0.51	$0.59	$0.06
Pormpuraaw (S)	QLD	$0.50	$0.51	$0.05
Weddin (A)	NSW	$0.49	$0.59	$0.11
Paroo (S)	QLD	$0.48	$0.52	$0.06
Chittering (S)	WAU	$0.48	$0.65	$0.12
Hunters Hill (A)	NSW	$0.48	$0.93	$0.41
Central Highlands (M) (Tas.)	TAS	$0.47	$0.53	$0.06
West Wimmera (S)	VIC	$0.47	$0.58	$0.11
Barunga West (DC)	SAU	$0.46	$0.53	$0.10
Napranum (S)	QLD	$0.46	$0.47	$0.05

Bogan (A)	NSW	$0.44	$0.52	$0.10
Moora (S)	WAU	$0.43	$0.50	$0.09
Tasman (M)	TAS	$0.42	$0.49	$0.09
Mount Remarkable (DC)	SAU	$0.41	$0.49	$0.09
Hay (A)	NSW	$0.40	$0.49	$0.09
Dandaragan (S)	WAU	$0.40	$0.49	$0.09
Laverton (S)	WAU	$0.39	$0.42	$0.04
Ashburton (S)	WAU	$0.39	$0.80	$0.15
Coomalie (S)	NTE	$0.39	$0.42	$0.08
Lockhart River (S)	QLD	$0.38	$0.39	$0.04
Walcha (A)	NSW	$0.37	$0.46	$0.09
Leonora (S)	WAU	$0.36	$0.40	$0.04
Lockhart (A)	NSW	$0.34	$0.44	$0.08
Mount Magnet (S)	WAU	$0.34	$0.35	$0.07
Murrumbidgee (A)	NSW	$0.33	$0.45	$0.09
Wagin (S)	WAU	$0.32	$0.37	$0.07
Nannup (S)	WAU	$0.32	$0.35	$0.07
Longreach (R)	QLD	$0.32	$0.43	$0.05
Tumby Bay (DC)	SAU	$0.32	$0.39	$0.07
Streaky Bay (DC)	SAU	$0.31	$0.37	$0.07
Cottesloe (T)	WAU	$0.31	$0.56	$0.24
Wujal Wujal (S)	QLD	$0.30	$0.30	$0.03
Carrathool (A)	NSW	$0.29	$0.37	$0.07
Wiluna (S)	WAU	$0.28	$0.30	$0.03
Flinders Ranges (DC)	SAU	$0.28	$0.33	$0.06
Pingelly (S)	WAU	$0.27	$0.30	$0.06
Exmouth (S)	WAU	$0.27	$0.35	$0.04
Beverley (S)	WAU	$0.26	$0.31	$0.06
Dundas (S)	WAU	$0.26	$0.28	$0.03
Queenscliffe (B)	VIC	$0.26	$0.34	$0.10
Barcaldine (R)	QLD	$0.25	$0.34	$0.04
Kingston (DC) (SA)	SAU	$0.23	$0.30	$0.06
Quairading (S)	WAU	$0.23	$0.25	$0.05
Belyuen (S)	NTE	$0.23	$0.23	$0.02
Broomehill-Tambellup (S)	WAU	$0.22	$0.25	$0.05
Gnowangerup (S)	WAU	$0.22	$0.25	$0.05
Wongan-Ballidu (S)	WAU	$0.21	$0.25	$0.05
Boddington (S)	WAU	$0.21	$0.26	$0.05
Flinders (S) (Qld)	QLD	$0.21	$0.25	$0.03
Blackall-Tambo (R)	QLD	$0.21	$0.26	$0.03
Balranald (A)	NSW	$0.21	$0.27	$0.05
Kojonup (S)	WAU	$0.21	$0.26	$0.03
Cunderdin (S)	WAU	$0.20	$0.24	$0.03
Southern Mallee (DC)	SAU	$0.20	$0.26	$0.05
Boyup Brook (S)	WAU	$0.20	$0.25	$0.05
Goomalling (S)	WAU	$0.20	$0.23	$0.04
Ravensthorpe (S)	WAU	$0.20	$0.25	$0.05
Chapman Valley (S)	WAU	$0.20	$0.24	$0.05
Yilgarn (S)	WAU	$0.19	$0.22	$0.04
Kellerberrin (S)	WAU	$0.19	$0.22	$0.04
Elliston (DC)	SAU	$0.18	$0.21	$0.04
Roxby Downs (M)	SAU	$0.18	$0.30	$0.03
Yalgoo (S)	WAU	$0.18	$0.18	$0.03
Weipa (T)	QLD	$0.18	$0.30	$0.03
Karoonda East Murray (DC)	SAU	$0.17	$0.20	$0.04
Flinders (M) (Tas.)	TAS	$0.16	$0.19	$0.02
Coorow (S)	WAU	$0.16	$0.19	$0.04
Brookton (S)	WAU	$0.15	$0.18	$0.03
Franklin Harbour (DC)	SAU	$0.14	$0.18	$0.03
Cleve (DC)	SAU	$0.14	$0.19	$0.04
Corrigin (S)	WAU	$0.14	$0.17	$0.03
King Island (M)	TAS	$0.14	$0.19	$0.02
Robe (DC)	SAU	$0.14	$0.18	$0.03
Shark Bay (S)	WAU	$0.13	$0.15	$0.02
Carnamah (S)	WAU	$0.13	$0.14	$0.03
Morawa (S)	WAU	$0.13	$0.15	$0.03

Winton (S)	QLD	$0.12	$0.15	$0.02
Kondinin (S)	WAU	$0.12	$0.14	$0.02
Dalwallinu (S)	WAU	$0.12	$0.16	$0.02
Cranbrook (S)	WAU	$0.11	$0.14	$0.03
West Arthur (S)	WAU	$0.11	$0.13	$0.02
Bruce Rock (S)	WAU	$0.11	$0.13	$0.03
Burke (S)	QLD	$0.10	$0.11	$0.01
Dumbleyung (S)	WAU	$0.10	$0.12	$0.02
Cuballing (S)	WAU	$0.10	$0.12	$0.02
Wyalkatchem (S)	WAU	$0.10	$0.11	$0.02
Wudinna (DC)	SAU	$0.10	$0.14	$0.03
Menzies (S)	WAU	$0.09	$0.11	$0.01
Unincorporated NSW	NSW	$0.09	$0.13	$0.01
Richmond (S)	QLD	$0.09	$0.11	$0.01
Croydon (S)	QLD	$0.09	$0.10	$0.01
Orroroo/Carrieton (DC)	SAU	$0.09	$0.12	$0.01
Dowerin (S)	WAU	$0.09	$0.11	$0.02
Kulin (S)	WAU	$0.09	$0.11	$0.02
Trayning (S)	WAU	$0.09	$0.09	$0.01
Wickepin (S)	WAU	$0.09	$0.11	$0.01
Etheridge (S)	QLD	$0.08	$0.10	$0.01
Tammin (S)	WAU	$0.08	$0.09	$0.02
Mingenew (S)	WAU	$0.07	$0.09	$0.02
Narembeen (S)	WAU	$0.07	$0.10	$0.01
Lake Grace (S)	WAU	$0.07	$0.11	$0.01
Three Springs (S)	WAU	$0.07	$0.09	$0.02
Wagait (S)	NTE	$0.07	$0.09	$0.01
Quilpie (S)	QLD	$0.07	$0.09	$0.01
Cue (S)	WAU	$0.07	$0.07	$0.01
Boulia (S)	QLD	$0.06	$0.08	$0.01
Koorda (S)	WAU	$0.06	$0.08	$0.01
Woodanilling (S)	WAU	$0.06	$0.07	$0.01
Upper Gascoyne (S)	WAU	$0.06	$0.07	$0.01
Kimba (DC)	SAU	$0.06	$0.09	$0.02
Williams (S)	WAU	$0.05	$0.08	$0.02
Nungarin (S)	WAU	$0.05	$0.06	$0.01
Peppermint Grove (S)	WAU	$0.05	$0.10	$0.05
Jerramungup (S)	WAU	$0.05	$0.08	$0.02
Victoria Plains (S)	WAU	$0.05	$0.08	$0.01
Wandering (S)	WAU	$0.05	$0.06	$0.01
McKinlay (S)	QLD	$0.05	$0.07	$0.01
Bulloo (S)	QLD	$0.04	$0.05	$0.01
Mukinbudin (S)	WAU	$0.04	$0.05	$0.01
Westonia (S)	WAU	$0.04	$0.04	$0.00
Unincorporated Vic	VIC	$0.04	$0.06	$0.01
Mount Marshall (S)	WAU	$0.03	$0.05	$0.01
Diamantina (S)	QLD	$0.03	$0.04	$0.00
Barcoo (S)	QLD	$0.03	$0.03	$0.00
Kent (S)	WAU	$0.02	$0.04	$0.00
Perenjori (S)	WAU	$0.02	$0.04	$0.01
Sandstone (S)	WAU	$0.02	$0.02	$0.00
Mapoon (S)	QLD	$0.00	$0.01	$0.00
Maralinga Tjarutja (AC)	SAU	$0.00	$0.00	$0.00
Murchison (S)	WAU	$0.00	$0.01	$0.00

Source: Deloitte Access Economics

Table A.3: Outcomes for key economic indicators for each State and Territory, change in per person value, 2018-19

Region	Disposable income	Consumption	Economic output
New South Wales	$114	$140	$47
Victoria	$121	$145	$53
Queensland	$150	$175	$56
South Australia	$166	$191	$70

Western Australia	$146	$171	$64
Tasmania	$182	$206	$60
Northern Territory	$236	$258	$55
Australian Capital Territory	$73	$101	$43

Source: Deloitte Access Economics

Table A.4: Outcomes for key economic indicators for each State and Territory, Total increase ($m), 2018-19

Region	**Disposable income**	**Consumption**	**Economic output**
New South Wales	$905	$1,128	$383
Victoria	$773	$952	$356
Queensland	$748	$883	$286
South Australia	$288	$333	$123
Western Australia	$377	$447	$168
Tasmania	$96	$109	$32
Northern Territory	$58	$64	$14
Australian Capital Territory	$31	$43	$19

Source: Deloitte Access Economics

Appendix B: The Horizon Model

B.1. The Horizon Model

The Horizon model produces detailed estimates of the impact of various scenarios on the Australian economy. It underpins the macroeconomic results in this report.

B.1.1. What is the Horizon model?

The Horizon model is a large scale structural macro econometric model of the Australian economy. Like all economic models, the Horizon model represents the complex forces at play in the real world economy using a simplified framework of relationships and assumptions.

While no model is perfect when it comes to complex scenario analysis, by combining both economic theory and real world data, models give their users the best information from which to start exploring a given economic scenario.

It is important to note that by modelling outcomes for the entire Australian economy, the Horizon model accounts for important feedbacks in the economy, such as changes in interest rates in response to a downturn, and in the impacts on business – such as reductions in wage costs in tough trading conditions.

A comprehensive model also ensures that outcomes for all industries and States are consistent with each other and with the economy as a whole. These are important outcomes that other approaches to scenario analysis can miss.

The core of the Horizon model looks at what has happened in the past to better understand potential futures. It estimates a detailed set of equations to represent the key relationships in the economy and predict future outcomes.

In one sense the model can be thought of as a detailed set of equations and the data required to solve them. Those equations reflect the deep expertise and experience of Deloitte Access Economics, and are constructed based on a combination of economic theory and the historical experience of the Australian economy.

Each of these equations has associated parameters – values that measure the strength of the various relationships contained in that equation. These are estimated by applying econometric techniques to the underlying data to ensure the relationships match up as closely as possible with past experience.

Each time Deloitte Horizon is updated the data underpinning the Horizon model is refreshed, and the parameters of the model equations are re-estimated. This produces new baseline forecasts and different relationships between the variables in the model, which can in turn alter outcomes under alternative scenarios.

In simulating the impacts of the intervention described in this report a specific set of scenario assumptions have been input into the Horizon model to forecast an alternative path for the economy.

B.1.2. How does the model work?

Australia's economy is made up of a complex set of relationships between consumers, businesses, financial markets and governments. While there is no way for any analysis to incorporate all the complexity of a real world economy, the Horizon model adopts a macroeconomic framework that simplifies the most important features of the economy into a form that's suitable for scenario analysis and forecasting.

At its heart, that framework is built on interactions between:

- Three types of agents – businesses, governments, and households.
- Three types of markets – labour markets, product markets and financial markets – in which those agents interact with each other, and with the global economy.

At the most basic level the model reflects a circular flow of funds around the economy.

To take one example, households purchase the goods made by businesses in the product market using the income earned from those same businesses in the labour market.

Both sides of each such transaction are recognised and the resulting funds feed into a number of other transactions in the economy.

Representing the circular nature of economic flows is an important feature of the model. It requires a detailed set of equations that are solved simultaneously, rather than sequentially.

In such a framework, the short run path for the economy is largely driven by fluctuations in components of demand – consumption, investment, net government spending, exports and imports.

In the longer term, economic output is more closely tied to the supply side of the economy. As Federal Treasury has long noted the 'Three P's' of population, participation and productivity are at the heart of the growth potential of the Australian economy over time.

Population projections are determined exogenously using Deloitte Access Economics' detailed modelling of the Australian population. Productivity forms an important component of the scenario capability of the model – particularly in relation to the adoption of new technologies – with resulting impacts on long term output and employment by industry sector.

Movements in the overall stock of capital also play a role, linking short term impacts on investment to the path of longer term economic growth.

B.1.2.1. Economic agents

The Horizon model represents the behaviour of households, businesses and governments which collectively make up the economy as a whole.

- Businesses employ workers, use business assets and purchase intermediate goods (supplies, services and raw materials from Australian or international sources) to produce goods and services.
- All three levels of government in Australia – Federal, State and Local – are included together in the model as a single government sector. Governments spend money on goods and services (such as national defence and health care) invest in new public infrastructure, collect taxes, borrow on financial markets and set monetary policy.
- Households work for businesses, buy goods and services, own all business and financial assets and pay taxes. Household consumption is influenced by household income, private wealth, dwelling stocks, prices, public sector borrowing requirements, rental prices and world prices. Preferences in relation to the timing of consumption also play a role. Rental consumption, including imputed rental consumption for households who own their own home, is modelled separately from non-rental consumption.

B.1.2.2. Markets

Markets are where households, businesses and governments interact. Supply and demand interact in markets to determine economic outcomes.

- The labour market is where households look for work and businesses hire employees. The interaction of the demand and supply of workers determines the unemployment rate and the wage rate. Job vacancies and the difficulty of finding work – particularly for the long term unemployed – are included in the model.

- The goods market is perhaps the most familiar of the markets within the modelling framework. Here the spending decisions of households (demand) are reconciled with the output decisions of businesses (supply). In the model, the prices of goods and services are industry-specific, and respond differently to pressures in demand, wage and import prices across the different modelled industries. Incorporating import prices in the determination of expenditure prices also ensures that changes in the exchange rate are accounted for, resulting in changes in relative expenditure prices and in the composition of domestic demand. Imports will be driven by domestic demand in the short run, with import prices having some influence in the medium to long run.
- Financial markets also play an important role within the model. Here interest rates and the exchange rate are determined mostly by a combination of world financial markets – where Australia has to take what it can get – the actions of the Reserve Bank of Australia in keeping inflation within its target band and the value of Australia's imports and exports.

B.1.2.3. Industry detail

The core structure of the model contains the major industries based on the latest Australian and New Zealand Standard Industrial Classification (ANZSIC 2006) and uses a bottom-up approach.

11 major industry groupings are modelled in full, with unique production functions, capital stocks output prices and

Additional industry detail is available based on a 'top down' framework – one that splits out totals estimated within the model's core into more detailed industries based on relationships that are known or observed in the data.

That modelling is complex, but in essence the model compares movements in output and employment in each sub-industry with movements in national spending aggregates – business investment, consumer spending, imports and so on. The resulting relationships then drive the performance of the various sub-industries in the model.

B.1.3. Where does the data come from?

The Horizon model is both large and complex. In analysing any given scenario, it draws on a wealth of data relating to the Australian economy and business conditions, as well as information about the various changes expected under the scenario in question.

Information on the scenario specific inputs used in this analysis is provided in Chapter 2.

Inputs to the model itself are largely drawn from publicly available data issued by third parties, with the bulk of the relevant datasets produced by the Australian Bureau of Statistics (ABS).

While the full list of included datasets is too long to include here, major data sources include:

- The Australian System of National Accounts (ABS catalogue numbers 5204.0, 5206.0):
  - A vast majority of the data needed to form the structural model of the Australian economy is sourced from the national accounts.
  - This dataset covers both government and private sector inputs.
  - It includes data relating to output, consumption, investment, imports and exports, including State and industry detail.
  - Important price deflators are also drawn from the national accounts.
- Balance of payments and international investment position (ABS catalogue number 5302.0):
  - The data from here forms the structure of the model's external accounts.
  - Key variables include the nominal trade balance, net income balance and net unrequited transfers.
  - Measures of the current account and capital account are also available.
- Labour force survey (ABS catalogue number 6202.0):

  - Forms the primary source for labour market related variables.
  - This includes employment, unemployment, labour force participation and hours worked.
  - Many other related measures are also available.

- Consumer Price Index (ABS catalogue number 6401.0):

  - This data is used to introduce domestic prices and price expectations into the model.
  - The Consumer Price Index information is available by capital city and across a number of categories of goods and services.
  - Information on underlying and headline inflation, as well as results for the volatile items that make up the difference, is also available.

- Wage data is drawn from a variety of sources:

  - Wage Price Index (ABS catalogue number 6345.0)
  - Average Weekly Earnings (ABS catalogue number 6302.0)
  - Average Compensation of Employees (ABS catalogue number 5206.0)
  - Some wage information at the State and industry level is synthesised by Deloitte Access Economics on the basis of proprietary modelling.

- Financial market variables are sourced from the Reserve Bank of Australia's statistical database, these include (not limited to):

  - 90 day bank bill rates
  - 10 year government bond rates
  - Foreign interest rates
  - Foreign exchange rates

- Government sector variables are informed by a variety of publicly available sources:

  - ABS Government Finance Statistics (ABS catalogue number 5512.0)
  - Department of Human Services
  - Australian Tax Office
  - State and Federal Budget information.

- Global variables rely on a variety of sources:

  - Thomson Reuters Datastream and Eikon
  - FRED – the Federal Reserve Bank of St Louis Economic Database
  - International Monetary Fund
  - World Bank
  - Organisation of Economic Co-operation and Development.

- Detailed industry specific variables largely rely on the Australian Industry publication (ABS catalogue number 8155.0):

  - This includes measures of profits, revenues and costs, including wage costs
  - Employment and activity are also drawn from this publication at the sub-industry level.
  - Interest costs and debt stocks are based on ATO Taxstats data

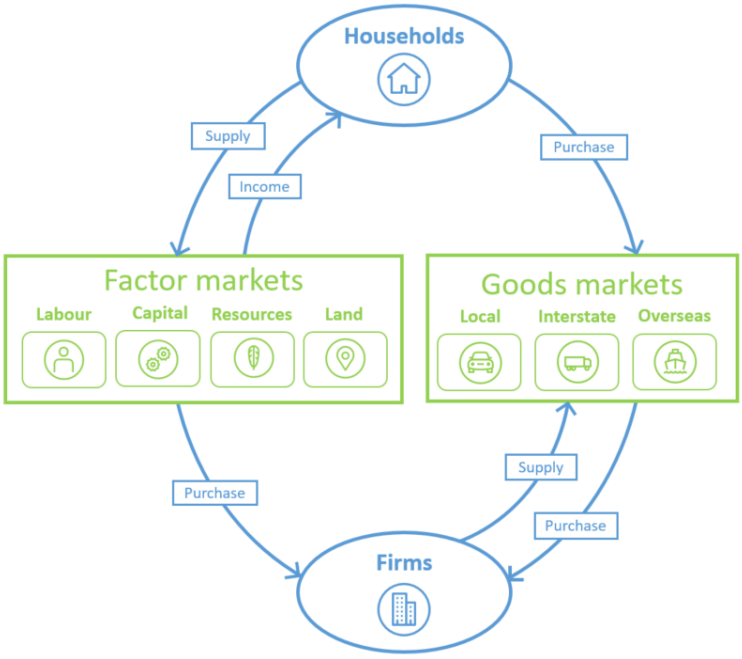
Appendix C: Regional CGE modelling methodology

C.1. Computable general equilibrium modelling

The project utilises the Deloitte Access Economics' – Regional General Equilibrium Model (DAE-RGEM). DAE-RGEM is a large scale, dynamic, multi-region, multi-commodity CGE model of the world economy with bottom-up modelling of Australian regions. DAE-RGEM encompasses all economic activity in an economy – including production, consumption, employment, taxes and trade – and the inter-linkages between them. For this project, the model has been customised to explicitly identify the parts of the Australian economy where the event will take place, including some of its unique economic characteristics.

Figure 2.1 is a stylised diagram showing the circular flow of income and spending that occurs in DAE-RGEM. To meet demand for products, firms purchase inputs from other producers and hire factors of production (labour and capital). Producers pay wages and rent (factor income) which accrue to households. Households spend their income on goods and services, pay taxes and put some away for savings. The government uses tax revenue to purchase goods and services, while savings are used by investors to buy capital goods to facilitate future consumption. As DAE-RGEM is an open economy model, it also includes trade flows with other regions, interstate and foreign countries.

Figure C.1: The components of DAE-RGEM and their relationships



Source: Deloitte Access Economics

The model compares a baseline scenario where the proposed increase in Australian Government allowance payments *does not* occur with a counterfactual scenario where the payment increase *does occur*. A set of inputs that stylise these alternative scenarios, so that the economic impact of the event can be projected have been developed.

Limitation of our work

General use restriction

This report is prepared solely for the use of the Australian Council of Social Service. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose set out in our engagement letter dated 29 June 2018. As noted in our engagement letter, we understand that, as part of its *Raise the Rate* campaign, ACOSS may publicly release this report. You should not refer to or use our name or the advice for any other purpose.

Deloitte.
Access Economics

Deloitte Access Economics
ACN: 149 633 116
8 Brindabella Circuit
Brindabella Business Park
Canberra Airport ACT 2609
Tel: +61 2 6263 7000
Fax: +61 2 6263 7004

Deloitte Access Economics is Australia's pre-eminent economics advisory practice and a member of Deloitte's global economics group. For more information, please visit our website

www.deloitte.com/au/deloitte-access-economics

About Deloitte
Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's approximately 260,000 professionals are committed to becoming the standard of excellence.

About Deloitte Australia
In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms. Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 7,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at www.deloitte.com.au.