Independent Modelling of Federal Budget 2020-21

STINMOD+ | NATSEM

HOW DOES THE BUDGET AFFECT US?

NATSEM Policy Note

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Introduction

The 2020-21 federal budget is unprecedented.

This is not only because it has been released later than usual and during a global health pandemic. It is also because of the high level of uncertainty about our economy and society.

This makes for a very different independent modelling of this year's budget. Such is the degree of income and related shock that is still reverberating through the community, many of the traditional forms of data used each budget are less accessible or reliable. Taking a conservative approach to analysis, this has resulted in NATSEM curtailing the usual scope of this report. It has also seen our team adopt creative new ways to compensate.

These unprecedented events have also made for a very different budget to those that recently came before. It is a federal budget that sets records in terms of spending and debt, when just months ago the national priority was returning the budget into the black.

The key theme of this year's budget is that business will lead the economic recovery across Australia.

This budget espouses investment in tax cuts, wage subsidies and asset write-offs as a path to this recovery. Along with many other measures, this is predicted to lift gross debt to over 1 trillion dollars by 2024.

This will result in a huge financial deficit. This is not necessarily a bad thing for a Government seeking to cushion the blow of large job losses and to get the economy back on track. This is particularly the case at a time when the interest costs of lending money are so low. A little over a decade ago, when faced with the Global Financial Crisis, we saw a similar response from Government to help protect Australia from the dire economic impacts seen overseas.

Over the last decade, NATSEM has focussed its analysis around how the federal budget impacts everyday Australians and households. This continues this year. We have maintained an emphasis on those who may be missing out in society, particularly in terms of poverty and income inequity. This also continues this year.

Over the years, what has been central in our work is basing our reports on solid data and impartial analysis. Again, this year's data comes from a number of widely available sources at budget time but is complemented and made unique by integration with our microsimulation model of the Tax/Transfer system, STINMOD+. This enables us to map out the full economic and welfare impacts of budget 2020-21.

This year, our team has again crunched the numbers. But it has been a particularly tough year. Our Tax/Transfer model draws on pre COVID data at a time when there have been huge changes in the labour force due to COVID-19. The Australian Bureau of Statistics {ABS} has done a magnificent job this year using data from the Tax Office (One Touch payroll data) to compensate for such gaps and present data on the changes to employment as soon as is possible. Our team has taken this information analysed it and presented it by industry, and more recently by geography, right across Australia.

Led by Professor Jinjing Li, our team have used these data, other current data and our STINMOD+ tool to develop a new Australian "nowcasting" model. This is a significant achievement and provides leaders and policymakers with near real time analysis at a time when data is scarce, and decisions are paramount. The initial results from this model are presented at the end of this report.

As a new model developed in recent months and for unprecedented times, this "nowcasting" model is still subject to academic and peer review. This takes time. However, we are confident of the results, and we expect more monitoring and analysis of the impacts of policy decision using this model in the months to come.

In unstable economic environments, projections are always going to be difficult ad caution is wise. So, for the analysis of the 2020-21 budget, we have relied mostly on a traditional approach that is more commonly called a "hypothetical families" model. This means we are focussing our analysis more on changes for the households and typical families that we find in the 2017-18 ABS Survey of Income and Housing, rather than less reliable population-wide estimates. To reveal the full impact, we show a matrix of characteristics for each household member.

Unfortunately, our work has been curtailed this year. Our model is a model of families, not of business. Given that most of the changes in this year's budget have been targeted at business, they have fallen outside the scope of this modelling.

But what we have modelled all the changes to family tax and welfare payments, which we present in this report.

The message from our analysis is clear.

The less households earn, the less they gain from this budget. Meanwhile, high income households gain the most from tax cuts – up to nearly $5,000 per year for a household with two high income couples and no children, compared to $500 per year for a house with an unemployed person and a person on the minimum wage and no children. This is consistent across all the different types of household considered in this report.

When viewed in line with NATSEM's recent analysis that the Government's initial policy responses to COVID-19 resulted in a reduction in poverty and income inequity, the question that remains is what will be the impact of rolling back these measures and a federal budget that focusses on business stimulus?

NATSEM prefers to comment on what our modelling shows rather than try and speculate or predict what might happen in the future. This is why we will continue to monitor the impact of COVID-19 policy and these budget responses in the coming months.

About NATSEM

The National Centre for Social and Economic Modelling (NATSEM) at the University of Canberra is one of the premier sources of independent quantitative social and economic research services and policy advice in Australia. NATSEM is an international leader in supporting strong policy through robust evidence. It is known as a national centre of excellence in microsimulation, economic modelling and policy evaluation.

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NATSEM undertakes independent and impartial research that contributes to policy design and analysis. Our work includes models that show how policy scenarios shape tax and welfare payments. This report is based on the STINMOD+ tax and transfer microsimulation model, which is used to estimate the impact of the policy change on selected households. Estimations that are more tailored to individual circumstances are available at https://stinmod.canberra.edu.au/stinmod/family_impact/

NATSEM has no affiliation with any political party and received no external funding to conduct this budget analysis.

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For more information about STINMOD+, please visit https://stinmod.canberra.edu.au/

For more information about NATSEM, please visit

https://www.governanceinstitute.edu.au/centres/national-centre-for-social-and-economic-modelling-natsem/news-and-media/natsem-news

Budget Overview

The 2020-21 Federal Budget is unique, which is best grasped when placed in context with previous years.

The total expected Commonwealth revenue in FY 2020-21 is expected to be $472.4 billion. This accounts for 24.3% of GDP (see Figure 1). It is $13.8 billion less than the previous financial year.

Figure 1 - Federal Revenue and Deficit as percentage of GDP

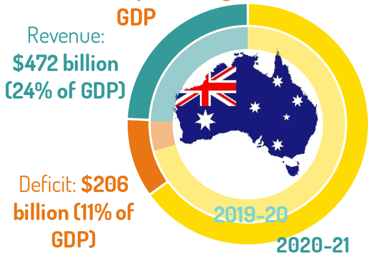
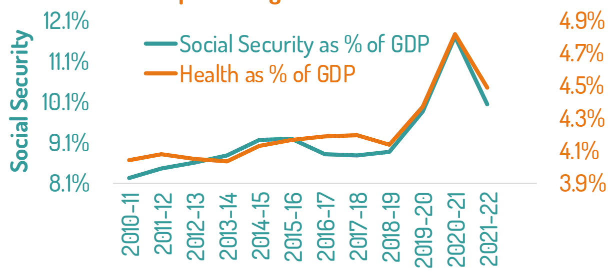


Figure 2 - Social Security and Health Expenditure as percentage of GDP



Behind this shift is an economic downturn of 34.4% in GDP in 2020-21.

Social security and health have grown as key items of government expenditure. Social Security has been the largest federal government expenditure for several years. Figure 2 shows that social security expenditure is expected to increase by 16% in FY 2020-21, reaching 11.7% of the GDP. Due to the pandemic, health spending will also peak at 4.8% of the GDP in 2020-21, while it is projected to stabilise at 4.5% of GDP in the coming years.

It should be noted that these estimates are based on government projections, which expect the real GDP to fall by 1.5% in FY 2020 but grow at 4.75% in FY 2021.

Spatial employment distribution

One of the major impacts of COVID-19 across Australia has been on employment.

With the expanding shutdown in March 2020, people were confined to their homes. Some industries came to a standstill, while businesses had to close. Many staff couldn't continue to be employed.

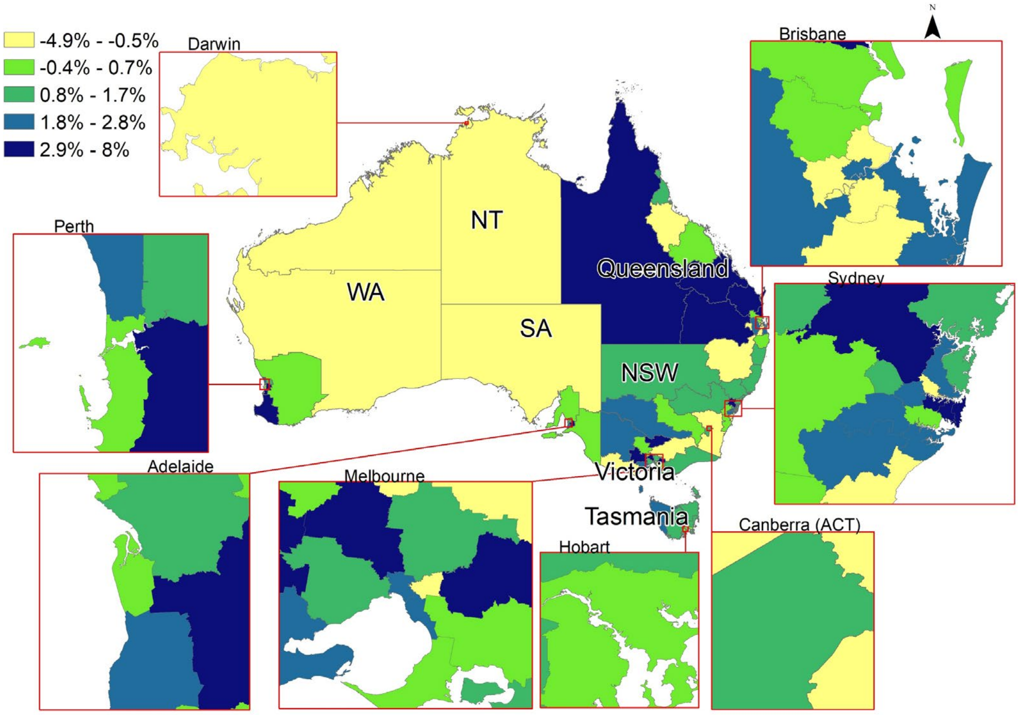
It soon became apparent that the impact of COVID-19 and the lockdown measures on employment varied across industries and regions. Map 1 shows that, in general, capital cities such as Sydney, Melbourne, Queensland and Adelaide seem to be hit more than the regional areas with a higher percentage increase in unemployment.

People staying at home hit the retail industry hard. Measures such as closing borders may also have contributed to a reduction in employment in the tourism industry, particularly in regional Queensland and outback Australia during tourism season (April -September). On the other hand, the mining industry remained strong over this period due to the high volume of exports.

Regions that experienced large COVID-19 outbreaks were more likely to be negatively affected in terms of unemployment. For example, the outbreak in Hume, Whittlesea and Brimbank contributed to the increase in the unemployment rate and levels of underemployment in Melbourne's north-west.

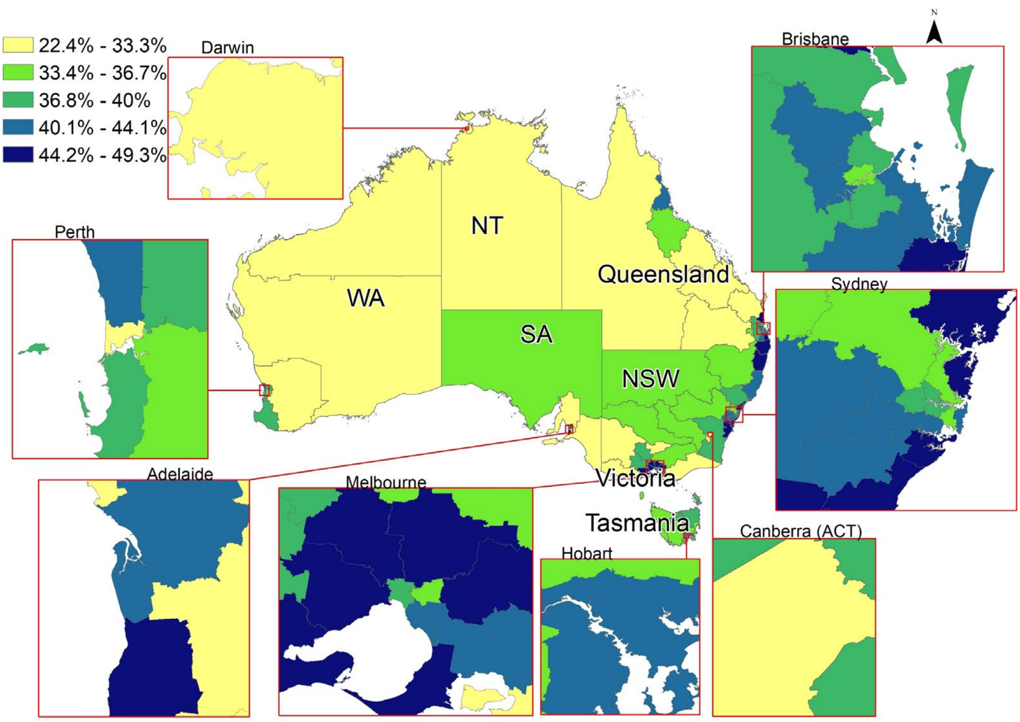
One policy response to the crisis was the Government's Jobkeeper program. This paid employers a subsidy to keep workers in their jobs when otherwise they would be financially unviable. In most areas nationally, more than a quarter of the businesses have applied for JobKeeper since the COVID outbreak. The application rate is as high as 40% in some capital cities. The greater impact of COVID on the accommodation and food industries in the CBDs may explain this pattern. Map 2 shows that businesses in capital cities that were more likely to apply for JobKeeper in June 2020.

Map 1 – Percentage point change in unemployment rate between February and August 2020



Source: ABS Labour Force, Australia, Detailed – Labour force status by Labour market region (ASGS)

Map 2 – Percentage of business applied for JobKeeper in June 2020



Source: ABS Counts of Australian Businesses by SA2 and ATO, JobKeeper organisation application count by postcode, The data are concorded to SA4 by authors

Household Impact of the Budget Measures

Australia is in a significant COVID-19 led recession. The unemployment figures suggest this and the 2020 Budget response confirms it. It is clearly shown in the total Government expenditure and deficit (Figure 1); and the large expenditure on social security and health in 2020-21 (Figure 2). However, this section takes this insight further through analysis of the impact of the tax and transfer measures from within the 2020-21 federal budget on households with different income levels and compositions.[1]

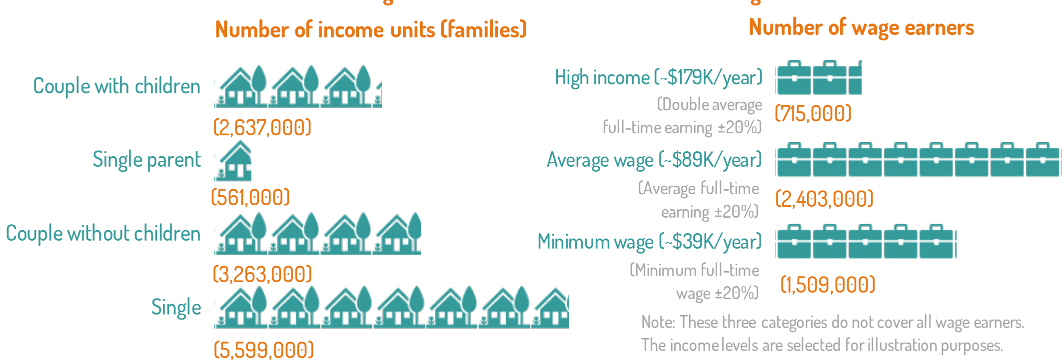
In times pre-COVID, our modelling would draw on data from the Australian Bureau of Statistics that would represent everyone in different household types across Australia. Our method would update the data to 2020 in a way that was represenative and showed the impact of budget measures. But this was not a normal year.

The most recent data available from the ABS is from 2018. It represents an Australia very different to today. Such has been the seismic economic shifts in Australia across just a few months, we have not been able to model from 2018 data.

Rather, for our analysis this year, we have applied our Stinmod+ model to a number of "hypothetical" families in Australia. Thsese are singles (~46% of families), couples without children (~27% of families), couples with children (~22% of families) and single parents (~5% of families).[2] This is shown in Figure 3.

To illustrate the differences in the impact of the budget at different income levels, we have also run the analyses at average full-time wage (~$79K/year), minimum wage (~$29K/year) and high wage (~$179K/year). Additionally, we also include retirees and unemployed people in our analysis. This section identifies who from these groups benefits the most and the least from the proposed budget measures.

Figure 3 - Number of income units and wage earners



In short, our modelling indicates that broadly speaking the more you earn, the better off you will be from federal budget 2020-21.

Singles

Figure 4 shows the 2020 budget impact on the disposable income of single households. Our modelling shows that those who earn a high income will gain more from this year's budget as they benefit from the tax cut that has been brought forward a year from 1 July 2022. This group's disposable income will increase by $2,430 in 2020 (and will continue in 2021). This extra income is more than four times the additional income received by singles on a minimum wage and more than double of those on the average wage in 2020.

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[1] It should be noted that only new measures announced in the 2020 Budget are included in this analysis.

[2] Please note that couple families have two parents, so we have provided a matrix for these families showing the status of each parent in the hypothetical family.

Meanwhile, the extra disposable income due to the tax cut and the low-income tax offset (LITO) for the minimum wage group will be $101 in 2021, slightly higher than $73 extra for the average wage group. Retirees who are single can expect an extra $500 due to the additional COVID-19 supplements ($250x2). This is significantly lower in real terms to singles on higher incomes.

Figure 4 - The 2020 Budget tax changes impact on single households in 2020-21 and 2021-22

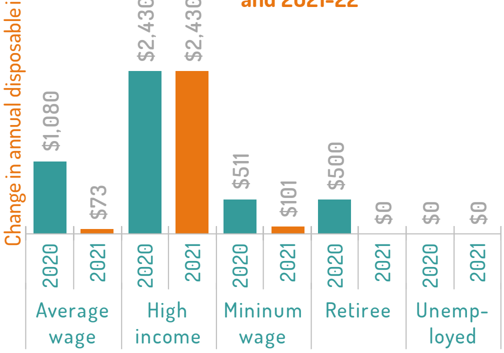


Figure 5 - The 2020 Budget tax changes impact on single households by income level

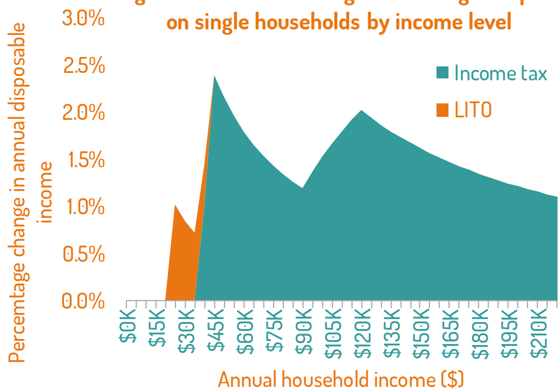


Figure 5 shows that in terms of percentage change in incomes (rather than absolute dollars), low to middle income earners gain the most, with low income earners benefiting from LITO; and middle income earners benefiting from the tax cuts.Those with a pre-tax household income of $40,000 per annum will be affected by two budget measures. Singles who earn $45,000 per year gain the most percentage wise with an extra of 2.4% due to the income tax cut. This casts a narrative where singles on lower incomes do better in relative terms.

Couple without children

Our modelling suggests that when both partners in a couple without children and receive a high wage, they gain the most from this year's budget as the income tax cut wil l benefit them both.

Table 1 shows the change in total annual disposable income for a couple family without children. Because there are two potential workers, the matrix shows the status of Person 1 and Person 2 in the family. So a family with one person on a high income and one person unemployed will be $2,430 better off after the changes in the tax system.

These families will receive an extra $4,860 in 2020 after the changes in the tax system from the 2020 Budget.

A couple who both receive the average wage can expect an extra $2,160 in 2020 with the tax cut, where a couple who are both on the minimum wage can expect an extra $1,021 in their disposable incomes. This is because they are affected by two measures; the tax cut and the increase in the LITO. The changes in LITO affect couples who earn between $50,000 and $80,000 per year (see Figure 6). Couples where both partners are retirees or persons with a disability will receive an extra $500 - $1,000 due to the additional COVID-19 supplement provided to the recipients of the Age Pension and Disability Support Pension (DSP).

Figure 6 - The 2020 Budget tax changes impact on couples by income level

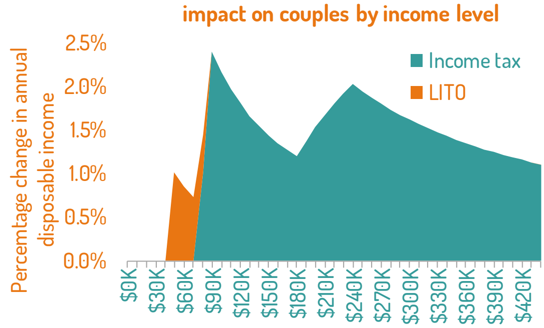


Table 1 – Changes in annual disposable income for couple families without children as a result of the tax changes in the 2020 budget

	Household composition	Person 1					
		High income	Average wage	Minimum wage	Unemployed	Retiree	Person with disability
Person 2	High income	$4,860	$3,510	$2,941	$2,430	$2,430	$2,430
	Average wage	$3,510	$2,160	$1,591	$1,080	$1,080	$1,080
	Minimum wage	$2,941	$1,591	$1,021	$510	$1,011	$1,011
	Unemployed	$2,430	$1,080	$510	$0	$500	$1,000
	Retiree	$2,430	$1,080	$1,011	$500	$1,000	$1,000
	Person with disability	$2,430	$1,080	$1,011	$1,000	$1,000	$1,000

Single parent

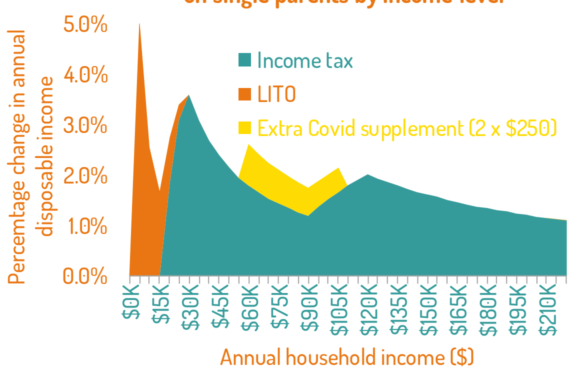
The income received by a single parent family can be complex due to different childcare and work arrangements. This complexity is reflected in our analysis, where single parent circumstance are vital to how they fare from this year's budget.

In our analyses, we assume that a family has two children: a three year old who receives full-time childcare (50 hours) and an eight year old who receives full-time out of school care (25 hours). Our modelling results, shown in Figure 7 shows that single parents who earn a high-income gain more from the tax and transfer changes in this year's budget as they benefit from the tax cut. This group can receive an extra $2,430 with the 2020 budget measures in 2020 and 2021.

Meanwhule, single parents on the minimum wage, who are affected by the tax cut and LITO, can expect an extra $1,080 in 2020 and $80 in 2021 when Low and Medium Income Tax Offset (LMITO) phases out. Single parent's disposable income with an average wage is affected by both the tax cut and economic support payments (as they receive the Family Tax Benefit). This group earns an extra $1,580 in 2020 and $74 in 2021. Unemployed single parents with children aged 3 and 8 will have an extra $255 in their disposable income due to LITO, assuming they do not use childcare as they are unemployed.

Figure 7 - The 2020 Budget tax changes impact on single parents in 2020-21 and 2021-22

Figure 8 - The 2020 Budget tax changes impact on single parents by income level



Assuming single parents working full time, Figure 8 indicates that single parents with a taxable income up to $15,000 per annum will be affected by the change in LITO. Single parents with a taxable income between $20,000 and $25,000 are affected by both income tax cut and LITO, while single parents with an income between $60,000 and $105,000 receive the income tax cut and the extra COVID-19 supplement as this group also receives FTB.

Couple with children

Using the same assumptions used in the analysis of Couples and Single Parents, we find again that higher income couples with children benefit most fomr the 2020-21 federal budget.

Our approach estimates the changes in the annual disposable income due to the tax and transfer changes in the 2020 budget at different income levels for families with two parents and two children (aged 3 and 8).

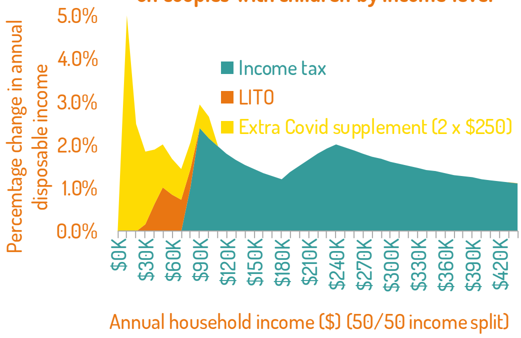
Table 3 shows that likeamilies, higher-income families benefit the most due to the income tax cut, receiving an extra $4,860 per income unit this financial year. If both parents work fulltime on minimum wage, the household can expect an extra $1,521 in their disposable incomes.

Table 2 - Changes in annual disposable income for couple families with children as a result of the tax changes in the 2020 Budget

	Household composition	Person 2			
		High income	Average wage	Minimum wage	Unemployed
Person 1	High income	$4,860	$3,510	$2,940	$2,430
	Average wage	$3,510	$2,160	$1,591	$1,580
	Minimum wage	$2,940	$1,591	$1,521	$1,010
	Unemployed	$2,430	$1,580	$1,010	$0

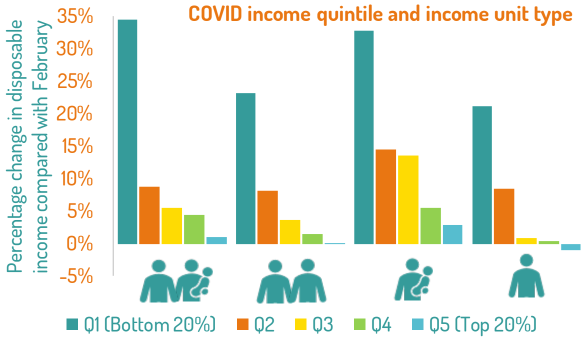
Figure 9 shows that couples with children earning up to $20,000 per year only receive the $500 extra COVID-19 supplement as this group receive FTB with no primary income support benefit. Couples with children who earn jointly between $30,000-$100,000 will also receive the changes in LITO and the tax cuts. At a household income level higher than $100,000, couples with children only receive the tax cut, which reduces as a proportion of their income as income increases.

Figure 9 - The 2020 Budget tax changes impact on couples with children by income level



Changes in income inequality due to Covid-19

Figure 10 - Changes in Disposable Income by pre-COVID income quintile and income unit type



NATSEM has recently developed a "nowcast" tax and transfer microsimulation model, which is able to reflect rapid changes in the economy as seen during COVID. A recent paper[3] used this nowcast model to undertake a near real-time analysis of the income distribution effects of the Covid-19 crisis in Australia. This helps us understand the ongoing changes in the income distribution due to a crisis, as well as the impact of policy responses.

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[3] Li, J., Vidyattama, Y., La, H. A., Miranti, R., & Sologon, D. M. (2020). The Impact of COVID-19 and Policy Responses on Australian Income Distribution and Poverty. *arXiv preprint arXiv:2009.04037.*

By combining data from three different sources, namely, the Monthly Longitudinal Labour Force Survey, the Survey of Income and Housing and the administrative single-touch payroll data, we show that despite the growth in unemployment, the Gini coefficient (a measure of inequality) dropped by nearly 0.03 points from 0.330 in February to 0.302 in May. The reduction is due to the additional wage subsidies and welfare support offered as part of the Government's policy response, offsetting the increase in income inequality from the changes in incomes (see Table 3). Families with children in lower income households are more likely to have experienced the most gain in disposable income (after deduction of the childcare cost) in the immediate months after the initial outbreak (See Figure 10), mainly due to the jobseeker and JobKeeper payments. This analysis highlights the importance of these payments during the crisis.

Table 3 - Changes in Income Inequality

	Feb	Mar	Apr	May	Jun
Gini of Market income (Age 15-64)	0.539	0.543	0.534	0.539	0.557
Changes relative to Feb	-	0.005	-0.005	0.000	0.018
Gini of Disposable Income (Population)	0.330	0.329	0.303	0.302	0.305
Changes relative to Feb	-	-0.001	-0.027	-0.027	-0.024

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