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Estimates of the change in family incomes after the introduction of the Families Package

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Introduction

The Families Package included changes to social assistance payments aimed at improving the incomes of low- and middle-income families. The level of financial assistance was increased mainly through:

- an increase in Accommodation Supplement (from April 2018)
- an increase in Family Tax Credit and other Working for Families tax credit entitlements, and matching increases to Orphan's Benefit and Unsupported Child Benefit (from July 2018)
- a new Winter Energy Payment for families supported by benefit (from July 2018) (Arnesen & Wilson, 2019).

Through the Families Package, early-years entitlements also saw a series of changes. These changes were generally only available to families with children born from July 2018 onwards. They were:

- four-week extensions to the maximum length of paid parental leave (one in July 2018 and one in July 2020)
- introduction of a new 'Best Start' tax credit of up to $60 per week until children reach the age of three
- removal of Parental Tax Credit (Wilson & McLeod, 2021).

Prior to its introduction, The Treasury modelled the impact of the Families Package on family incomes using its Tax and Welfare Analysis microsimulation model (TAWA). This involved comparing simulated incomes under pre-reform policy settings with simulated incomes under Families Package policy settings for each of the tax years 2018/19, 2019/20 and 2020/21.

It was estimated that, relative to pre-reform policy settings, the Families Package would make 385,000 families with children better off by an average of $66 a week in 2018/19, and by an average of $75 a week once it was fully implemented in 2020/21.[1] The estimate of 385,000 families with income gains was equivalent to 66 percent of all families.

These estimates gave a 'static' set of simulated expectations prior to the implementation of the Families Package. However, changing economic conditions and parental employment, possible behavioural responses to the package, and varying package take-up, could have impacted on the amount of financial assistance families actually received.

In addition, TAWA simulations assume the policy settings modelled are in place for an entire tax year. This means the number of families modelled as gaining income in the first year will have been greater in the TAWA simulations than would actually occur, as some increases in financial assistance were only introduced part-way through the year, or only for families with births after the implementation.

The purpose of this paper is to estimate the change in family incomes that actually occurred in 2018/19 taking a different approach to the TAWA simulations.

Where the TAWA simulations estimate the change in incomes compared with pre-reform simulated incomes for the same year, the approach taken in this paper compares actual incomes in the year before the Families Package was introduced with the year after the

[1] The Treasury – Families Package Information Release – Release Document March 2018. https://www.treasury.govt.nz/sites/default/files/2018-04/fp-3817438.pdf.

introduction. The paper also estimates how different groups in the population were affected.

Our estimation approach is based on linked data held in the Stats NZ Integrated Data Infrastructure (IDI).

Using linked data in the IDI lets us fill several important evidence gaps. It lets us provide:

- a picture of families' total income from Families Package payments
- information by ethnic group
- estimates of the proportion of families that gained income.

We are not able to provide this information using data held separately by Inland Revenue and the Ministry of Social Development (MSD) because:

- delivery of the payments is spread across the two agencies
- ethnicity is not recorded for recipients of most of the payments administered by Inland Revenue
- families who do not receive payments are not able to be counted.

The following sections provide details of our estimation approach and results, strengths and limitations, and reasons for differences between these results and TAWA estimates.

Results

332,700 families, over half of all families with children, are estimated to have received Families Package payments in 2018/19 – these families received an average of $55 more a week from Families Package payments in 2018/19 compared with 2017/18

Table 1 presents estimates of the change in average weekly income between 2017/18 and 2018/19 for families with children aged under 18 in 2018/19. Income is broken down into four broad categories:

- families package income[9]
- employment income[10]
- other benefit income[11]
- other income.

A little over half (54 percent) of families received a Families Package Payment in 2018/19. These families received an average of $55 more a week from those payments than in the previous year, a 35 percent increase in income from this source. This contributed almost two-thirds of the total $86 per week gain in gross income for these families over the period.

Table 1: Estimated average weekly income gain for families with children in the nine months from July 2018 compared to the equivalent period in 2017/18
By whether the family received Families Package income in the nine months from July 2018 (95% confidence intervals in brackets)

Family received Families Package in 2018/19?	No (n=2,136, N=280,800, 46%)		Yes (n=2,409, N=332,700, 54%)		Total (n=4,545, N=613,600, 100%)	
Income component	Average weekly gain(1) (2019 $)	Percentage gain	Average weekly gain(1) (2019 $)	Percentage gain	Average weekly gain(1) (2019 $)	Percentage gain
Families Package income	-$8 (-$9,-$7)	-100%	$55 ($50,$59)	35%	$26 ($23,$29)	30%
Employment income	$139 ($103,$174)	5%	$9 (-$12,$31)	1%	$68 ($48,$89)	4%
Other benefit income	-$1 (-$2,-$1)	-33%	$1 (-$3,$4)	1%	$0 (-$2,$2)	-1%
Other income	$13 (-$29,$56)	9%	$21 ($6,$35)	52%	$17 (-$4,$39)	20%
Total gross income	**$142 ($90,$195)**	**5%**	**$86 ($63,$108)**	**6%**	**$112 ($86,$137)**	**5%**
Total net income	**$112 ($63,$161)**	**5%**	**$75 ($58,$91)**	**6%**	**$91 ($67,$116)**	**6%**

Notes:
(1) Comparing income received in the period July 2018 to March 2019 with income received in the period July 2017 to March 2018, after adjusting for the CPI. These income amounts are in Appendix Table A1.

[9] Families Package payments are defined as including Family Tax Credit, In-work Tax Credit, Best Start, Parental Tax Credit, paid parental leave, Accommodation Supplement, Winter Energy Payment, Orphan's Benefit, Unsupported Child Benefit. We also include Temporary Additional Support because of the flow-on effects on receipt of this payment.
[10] Including income from wages and salaries, and self-employment (including schedular payments).
[11] Excluding payments defined as Families Package payments.

Some families who did not receive a Families Package payment in 2018/19 had received income from this source in the previous year. These families lost $8 per week in income from this source on average between 2017/18 and 2018/19. Employment income is estimated to have increased by $139 per week on average for these families, contributing towards an overall average income gain of $142 per week.

Overall, families in total are estimated to have experienced a four percent increase in employment income on average, equivalent to $68 per week, between 2017/18 and 2018/19. This strong growth in employment income will have resulted in lower numbers of recipient families and smaller average payments from the Families Package than were expected prior to its implementation.

It should be noted that increases in 'other income' are largely driven by changes in the tax system. From the 2019 tax year, Personal Tax Summaries were discontinued, and automatic assessments are being undertaken in their place. This resulted in some sources of income being identifiable in the IDI from the 2019 tax year onwards which would not have been identified previously.[12]

Families who received Families Package payments in 2018/19 received a six percent increase in gross and net weekly income between 2017/18 and 2018/19 on average. This is similar in percentage increase terms to the income gains experienced by families that did not receive the Families Package, because of the gains in employment income this second group of families experienced over the period.

We are unable to say how this finding influenced relative income measures of child poverty being monitored by Stats NZ, and relative income indicators of inequality being monitored by MSD.[13] This is because poverty and incomes monitoring are also influenced by income changes for families and households without dependent children, and by shifts in the overall distribution of equivalised household income.

In addition, our analysis does not quantify the effect of the Families Package, all other things being equal. The findings do not allow conclusions to be drawn about the success of the Families Package in achieving its poverty reduction aims.

[12] Information from automatic assessments is now recorded in the Personal Tax Summary data in the IDI. This has led to greater capture of some sources of income, including interest and dividend income. For details of the associated reform, see https://media.ird.govt.nz/articles/inland-revenue-launches-public-campaign-to-explain-the-biggest-tax-changes-in-a-generation/

[13] Latest monitoring reports can be found at https://www.stats.govt.nz/information-releases/child-poverty-statistics-year-ended-june-2020 and https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/household-incomes/index.html

Three quarters of the increase in Families Package income came from Family Tax Credit and Accommodation Supplement

For families that received Families Package income in 2018/19, Table 2 presents a breakdown of the change in income by component. Over half of their $55 average increase in Families Package income was due to increased Family Tax Credit income, while around a fifth was due to increases in Accommodation Supplement payments. The next largest gains were from paid parental leave and the In-work Tax Credit. Best Start, the Winter Energy Payment and Orphan's Benefit / Unsupported Child Benefit contributed smaller gains, of around $1 to $3 a week on average. There were similarly small losses of income from Parental Tax Credit and Temporary Additional Support.

Table 2: Estimated average Families Package income gains by payment type
For families that received Families Package income in the nine months from July 2018 (95% confidence intervals in brackets)

Families Package component	Average weekly gain comparing 2017/18 and 2018/19(1) (2019 $)	Percentage gain
Paid parental leave	$4 ($1,$8)	26%
Accommodation Supplement	$12 ($11,$14)	49%
Winter Energy Payment	$3 ($2,$3)	N/A
Orphan's Benefit / Unsupported Child Benefit	$1 ($0,$1)	37%
Temporary Additional Support	-$2 (-$3,-$2)	-45%
Family Tax Credit	$33 ($31,$35)	44%
In-work Tax Credit	$3 ($3,$4)	12%
Best Start Tax Credit	$2 ($2,$2)	N/A
Parental Tax Credit	-$1 (-$2,-$1)	-92%
Total Families Package payment income	**$55 ($50,$59)**	**35%**

Notes:
(1) Comparing income received in the period July 2018 to March 2019 with income received in the period July 2017 to March 2018, after adjusting for the CPI. These income amounts are in Appendix Table A2.

More than two thirds of families with a Māori or Pacific parent or caregiver received Families Package payments in 2018/19

Table 3 shows the estimated number and percentage of families receiving Families Package payments and the average income gain in the first nine months for these families, by the ethnic groups of the adult family members.

Consistent with differences in family size and socio-economic position, over two-thirds of families with a Pacific or Māori parent or caregiver received Families Package payments compared with just under half of families without a Māori or Pacific adult parent or caregiver (71 percent compared with 47 percent).

The estimated average gain in Families Package income for recipient families was $66 per week for families with a Pacific parent or caregiver, $59 per week for families with a Māori parent or caregiver, and $51 per week for families without a Māori or Pacific adult parent or caregiver.

Table 3: Estimated receipt and average Families Package income gains by ethnic group
(95% confidence intervals in brackets)

Any adult family member belonging to ethnic group:	Number of responding families in receipt of Families Package payments in the 9 months from July 2018	Estimated number of families in receipt of Families Package payments in the 9 months from July 2018	Percentage of families in receipt of Families Package payments in the 9 months from July 2018	Average weekly gain in Families Package payments for recipient families comparing 2017/18 and 2018/19(1) (2019 $)	Gain as percentage of Families Package payment income for recipient families	Gain as percentage of total gross income for recipient families
Māori	639	95,900	71%	$59 ($51,$68)	33%	5%
Pacific	351	50,700	71%	$66 ($53,$79)	34%	5%
Asian	342	48,000	47%	$46 ($31,$61)	34%	3%
European	1,569	211,200	50%	$53 ($46,$59)	36%	3%
MELAA(2)	54	7,300	58%	$71 ($46,$96)	45%	6%
Other	57	7,000	51%	$21 (-$10,$51)	16%	1%
Not Māori and Not Pacific (3)	1,500	198,400	47%	$51 ($45,$56)	37%	3%
Total	**2,409**	**332,700**	**54%**	**$55 ($50,$59)**	**35%**	**4%**

Notes:

(1) Comparing income received in the period July 2018 to March 2019 with income received in the period July 2017 to March 2018, after adjusting for the CPI. These income amounts are in Appendix Table A3. Appendix Tables A6, A7 and A8 provide further detail on estimated income by source for families with a Māori parent or caregiver (Table A6), a Pacific parent or caregiver (Table A7) and for families no parent or caregiver identifying as being of either Māori or Pacific ethnicity (Table A8).

(2) MELAA = Middle Eastern, Latin American or African.

(3) Families with no parent or caregiver identifying as being of either Māori or Pacific ethnicity.

Consistent with the policy design, all families with children supported by main benefits in 2018/19 gained income and these families had the highest average income gain from Families Package payments

Table 4 shows the estimated number and percentage of families receiving Families Package payments and the average income gain in the first nine months for these families, by whether the family was supported by a main benefit (such as Sole Parent Support or Jobseeker support) at the end of June 2018 (based on linked MSD data).

All families supported by a main benefit received Families Package payments. Their average income gain in Families Package income was $74 per week. Just under half of families not supported by benefit received payments. The average gain in Families Package income for recipient families in this second group was $49 per week.

Table 4: Estimated receipt and average Families Package income gains by benefit status and family type
(95% confidence intervals in brackets)

Benefit status and family type:	Number of responding families in receipt of Families Package payments in the 9 months from July 2018	Estimated number of families in receipt of Families Package payments in the 9 months from July 2018	Percentage of families in receipt of Families Package payments in the 9 months from July 2018	Average weekly gain in Families Package payments for recipient families comparing 2017/18 and 2018/19(1) (2019 $)	Gain as percentage of Families Package payment income for recipient families	Gain as percentage of total gross income for recipient families
Benefit status						
Not supported by a main benefit	1,896	252,000	47%	$49 ($43,$54)	36%	3%
Supported by a main benefit	513	80,800	100%	$74 ($66,$82)	34%	10%
Total	**2,409**	**332,700**	**54%**	**$55 ($50,$59)**	**35%**	**4%**
Family type						
Two parent family	1,554	222,100	46%	$53 ($47,$60)	38%	3%
Sole parent family	858	110,600	82%	$57 ($52,$63)	31%	7%
Total	**2,409**	**332,700**	**54%**	**$55 ($50,$59)**	**35%**	**4%**

Notes:

(1) Comparing income received in the period July 2018 to March 2019 with income received in the period July 2017 to March 2018, after adjusting for the CPI. These income amounts are in Appendix Table A4.

Two-thirds of recipient families had two parents or caregivers and average dollar gains were similar for sole and two parent families

Although sole parent families were more likely than two parent families to receive Families Package payments (82 percent compared with 46 percent), they made up the minority (a third) of families receiving payments.

The average gain in Families Package income for recipient families was similar for the two groups of families ($53 per week for two parent families and $57 per week for sole parent families). The amount represented a larger proportionate gain in income from Families Package payments for two parent families than sole parent families (38 percent compared with 31 percent). It represented a larger proportionate gain in total income for sole parent families (seven percent compared with three percent).

Families with children under 18 gained more than single people and couples without children

Table 5 compares the estimates for families with children aged under 18 with those for single people and couples with no children under 18 (including those aged 65 and over).

Most Families Package payments considered in our analysis are only available to families with children. The exceptions are:

- Accommodation Supplement, which is also available to people without children
- the Winter Energy Payment, which is automatically paid to people receiving a main benefit, New Zealand Superannuation or Veteran's Pension.

Temporary Additional Support payments (which were potentially affected by increased Families Package payments) are also available to families without children.

Thirty six percent of single people and couples without children received Families Package payments, and the average income gain from these payments for those who received them was $16 per week.

Table 5: Estimated receipt and average Families Package income gains by benefit status and family type
All families with a person aged 15 years and over (95% confidence intervals in brackets)

Children aged under 18:	Number of responding families in receipt of Families Package payments in the 9 months from July 2018	Estimated number of families in receipt of Families Package payments in the 9 months from July 2018	Percentage of families in receipt of Families Package payments in the 9 months from July 2018	Average weekly gain in Families Package payments for recipient families comparing 2017/18 and 2018/19(1) (2019 $)	Gain as percentage of Families Package payment income for recipient families	Gain as percentage of total gross income for recipient families
Yes	2,409	332,700	54%	$55 ($50,$59)	35%	4%
No:						
Couple	2,328	320,500	44%	$16 ($14,$17)	73%	1%
Single person	3,312	432,600	32%	$15 ($14,$17)	48%	3%
Total	5,643	753,100	36%	$16 ($15,$16)	56%	2%
Total	**8,052**	**1,085,800**	**40%**	**$28 ($26,$29)**	**41%**	**3%**

Notes:

(1) Comparing income received in the period July 2018 to March 2019 with income received in the period July 2017 to March 2018, after adjusting for the CPI. These income amounts are in Appendix Table A5.

Strengths and limitations

Totals compare well with published Working for Families tax credit and benefit figures

To assess the reliability of our results, we compare our estimates for the full 2018/19 tax year for the weighted sample of families with figures on Working for Families payments published by Inland Revenue.[14] These comparisons are presented in Table 6 below. Almost all our estimates are close to the official published figures for both the number of families receiving the payment and the average weekly payment amount.

Only one comparison, the number of Best Start recipient families in the 2018/19 tax year, diverges by more than 10 percent. Although we appear to over-estimate the number of families that received Best Start by almost a fifth, the published counts do not include families for whom MSD is the paying agency for Best Start.[15] In addition, the published average weekly Family Tax Credit payment includes the value of MSD's Best Start payments because the two payments are not separately reported when MSD files Employer Information returns to Inland Revenue.[16]

Table 6: Comparison between the number of recipient families and weekly dollars paid estimated using HLFS and official figures published by IR, 2018/19 tax year

Families Package component:	HLFS/IDI estimates		Published figures		% difference	
	Number of recipient families	Average weekly payment	Number of recipient families	Average weekly payment	Number of recipient families	Average weekly payment
Family Tax Credit	279,800	$137	289,309	$132	-3%	4%
In-work Tax Credit	206,600	$59	203,220	$57	2%	3%
Best Start Tax Credit	31,900	$16	27,071	$16	18%	0%
Parental Tax Credit	4,100	$31	4,278	$33	-4%	-7%

The results from this comparison suggest that, at a high level, the approach we use to estimate the change in family incomes after the introduction of the Families Package provides a reasonable indication of recipient numbers, and of the scale of the increase in payments.

By re-weighting our sample to the number of families receiving a main benefit as at the end of June 2018 we get a similar, but slightly smaller number of benefit families compared to official figures. Our estimated count of families supported by benefit at the end of June 2018 is 80,800, while the actual count for June 2018 was 91,000.[17] Using the original HLFS weights resulted in estimates of fewer than 60,000 benefit families.

The estimates should be viewed as indicative

A limitation of our recalibration approach is that excessive corrections could result in the introduction of additional bias, particularly if respondents in the group of interest (for example families supported by a main benefit) have different characteristics than non-respondents in the group. More generally, post-stratification (the calibration of weights to population benchmarks) usually involves a trade-off between gains in accuracy and a loss

[14] Sourced from https://www.ird.govt.nz/about-us/tax-statistics/social-policy/wfftc.
[15] Source: Personal Correspondence from Inland Revenue dated 9 March 2021.
[16] Source: Personal Correspondence from Inland Revenue dated 9 March 2021.
[17] Based on the count of working-age main benefit recipients with children included in their benefit.

of precision, as well as introducing the risk that the results may be overly impacted by outliers.

Estimates of the impact of the package, all else being equal, are not provided

The estimates presented here focus on the actual changes in income that occurred but, as noted above, they do not seek to estimate the impact of the package on incomes, *all else being equal*. There is no attempt to estimate the counterfactual. That is, there is no attempt to estimate what would have occurred in the absence of the package, taking into account:

- all the other factors affecting the incomes of different groups of families over time
- possible behavioural responses to the Families Package.

Some of the change in income we estimate occurring could be due to possible labour supply and family composition effects of the Families Package. For example, the increase in Families Package payments may have had the effect of reducing income from employment. We make no attempt here to separate out these possible effects.

There is a limited view of what defines a 'family'

Another limitation is that we focus only on family groups as they are defined in the benefit and tax systems. A useful future extension would be to explore the income change for other types of groupings within households. For Māori, this could involve use of the 2018 Stats NZ Te Kupenga survey. This survey is an important resource that can now be linked with administrative data in the IDI on incomes, providing new opportunities for analysis.

The estimates only cover the initial implementation period and do not capture the full effects of the package

The period we look at only covers the first nine months of the Families Package. It precedes the full implementation of Best Start and the Winter Energy Payment (which was paid for a shortened period in 2018), and the 2020 paid parental leave extension. As a result, these estimates understate the full gains in payments, which would not be seen in the data until after Best Start was fully implemented and reached a 'steady state'. This happened after the first birth cohorts to become eligible for the payment turned three and began ageing out of eligibility from mid-2021.

The estimates represent only one of the possible approaches to estimating effects on incomes

Finally, there are a number of possible alternative approaches to estimating gains in family incomes from the Families Package. Our approach uses longitudinal measures of income before and after the implementation of the Families Package for the same sample of families.

One limitation of this approach is that a small part of our estimated increase in income will be simply due to parents being a year older and with more labour market experience. Our headline estimates of 332,700 families receiving an additional $55 per week will also miss the loss in income and receipt for the small number of families whose children aged out of the payments or who lost entitlement through increased income. This loss of income is reflected in our estimated $8 per week of lost Families Package income among the 46 percent of families who did not receive a payment in the nine months to March 2019, however.

One alternative approach which would get around these limitations would be to estimate the average income of separate samples of families before and after the implementation of the package. By relying on two cross-sectional samples, however, we would lose the precision we gain from comparing the same families across two periods of time. This means that our estimates would be much less precise and have far wider confidence intervals.

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