

Options for Tax Credit Reform
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The IFS were asked by Barnardo's to model the impact of several packages of changes to the tax credit system.

All packages reduce the generosity of tax credits for relatively well-off families with children, and increase the generosity for those with relatively low incomes.

This is because each package of policies includes the following:

- The family element of the child tax-credit is tapered away at 39% immediately upon the exhaustion of the child element of the child tax credit.¹ This raises approximately £1.35 billion in 2008-09.

The reform options are designed to cost a total of £2.7 billion. After the £1.35 billion saved raised from tapering the family element, approximately £4 billion can therefore be spent on increasing the generosity of tax credits. The three packages are:

Option 1

Increase in the child element of the Child Tax credit from £2085 per annum to £2620 per annum (a 26% increase), and the family element of the child tax-credit is tapered away at 39% immediately upon the exhaustion of the child element of the child tax credit

Option 2

Increase in the child element of the Child Tax credit from £2085 per annum to £2370 per annum (a 14% increase) and the introduction of a "large families" element of £1600 per child for the third and subsequent children, and the family element of the child tax-credit is tapered away at 39% immediately upon the exhaustion of the child element of the child tax credit.

Option 3

Increase in the child element of the Child Tax credit from £2085 per annum to £2445 per annum (a 17% increase), doubling the additional 'baby' element from £545 to £1090, and introducing a second-earners disregard in tax credits for families with children, allowing a second earner to earn about £55 a week (approximately 10 hours per week at the minimum wage) before their entitlement starts being reduced. The family element of the child tax-credit is tapered away at 39% immediately upon the exhaustion of the child element of the child tax credit.

We have modelled the impact of the policies as if they were introduced in 2008-09 and compared with a baseline that includes the £600 rise in the personal allowance announced on May 13. For information, we have also modelled the impact of the £600 rise in the personal allowance on families with children, and the impact of tapering away the family element as a stand-alone policy.

¹ In the absence of any other reforms, this would mean a family with two children would no longer receive tax credits if their income exceeded about £27,500 per year, for instance, assuming the family is not entitled to or does not claim help with registered childcare.

We now look at the distributional impact by population sub-groups (families with children only). The sub-group analysis focuses on differential impact by:

- Income Decile
- Number of Children
- Lone Parent or Couple
- Employment Status of Parent(s)
- Ethnicity

Outcome by Income Decile

Type	£600 rise in PA	Win	Lose	Taper Family Element	Win	Lose
1	£0.25	11.5%	0.0%	£0.00	0.0%	0.0%
2	£0.80	33.4%	0.0%	-£0.01	0.0%	0.1%
3	£1.55	57.1%	0.0%	-£0.23	0.0%	2.8%
4	£2.26	73.6%	0.0%	-£1.70	0.0%	19.1%
5	£2.67	79.4%	0.0%	-£4.65	0.0%	46.4%
6	£3.03	84.2%	0.0%	-£7.54	0.0%	68.5%
7	£3.36	86.8%	0.0%	-£9.34	0.0%	85.2%
8	£3.16	82.0%	0.0%	-£7.45	0.0%	74.5%
9	£2.75	78.3%	0.0%	-£3.22	0.0%	36.2%
10	£1.51	58.5%	0.0%	-£0.17	0.0%	2.3%
All	£2.23	67.6%	0.0%	-£3.52	0.0%	34.4%

Source: authors' calculations based on uprated data from FRS 2005-6 and TAXBEN.

Note: Assumes full take-up. Impact of tapering family element compared with baseline that includes £600 rise in PA. Deciles are defined relative to whole population, but impact is shown only on families with children.

Those families in deciles 5 to 9 gain most from the £600 rise in PA, whilst those in deciles 1 and 2 gain least. Those in deciles 7, 8 and 9 lose most from the tapering of the family element, whilst those in deciles 1, 2 and 3 lose least (as they have too little income to be affected) as do those in decile 10 (as they have incomes above about £57,000).

Decile	Option 1	Win	Lose	Option 2	Win	Lose	Option 3	Win	Lose
1	£16.73	99.3%	0.0%	£15.46	99.3%	0.0%	£11.92	99.7%	0.0%
2	£20.76	99.7%	0.1%	£23.75	99.7%	0.1%	£16.21	99.7%	0.1%
3	£19.80	98.3%	1.1%	£20.51	98.0%	1.7%	£18.63	98.7%	1.0%
4	£15.88	89.4%	9.8%	£15.42	87.7%	11.1%	£18.88	93.0%	6.4%
5	£7.07	63.6%	35.5%	£5.48	61.0%	37.5%	£10.06	71.0%	27.6%
6	-£1.60	34.0%	64.8%	-£2.33	34.6%	64.8%	-£0.68	36.4%	62.3%
7	-£7.04	14.3%	82.7%	-£7.66	13.5%	83.5%	-£6.86	14.9%	81.9%
8	-£6.08	9.2%	73.9%	-£6.51	9.0%	74.0%	-£5.96	9.6%	73.4%
9	-£2.89	2.2%	35.6%	-£2.93	1.7%	35.6%	-£2.85	1.7%	35.6%
10	-£0.02	1.2%	2.2%	-£0.09	1.0%	2.2%	-£0.05	1.0%	2.2%
All	£7.07	54.6%	30.9%	£7.05	53.9%	31.5%	£7.07	56.3%	29.1%

Source: authors' calculations based on uprated data from FRS 2005-6 and TAXBEN.

Note: Options 1-3 compared with baseline that includes £600 rise in PA. Deciles are defined relative to whole population, but impact is shown only on families with children.

Under options 1 and 2, the largest cash gains are for deciles 2 and 3, with the largest losses amongst deciles 7 and 8. Those in the top two deciles lose out to a lesser extent because their incomes are often so high that they would not benefit from the family element even in the baseline system (i.e. family income in excess of about £57000). Option 2 concentrates cash gains the most (in deciles 2 and 3).

Option 3 distributes gains a little more evenly across the income distribution with the largest for deciles 3 and 4, with noticeably larger gains, on average, for decile 5 than for the other options.

Outcome by Number of Children

Type	£600 rise in PA	Win	Lose	Taper Family Element	Win	Lose
1	£2.29	68.0%	0.0%	−£4.12	0.0%	39.5%
2	£2.33	70.2%	0.0%	−£3.54	0.0%	35.2%
3	£1.91	61.9%	0.0%	−£1.87	0.0%	19.2%
4	£1.67	57.4%	0.0%	−£1.20	0.0%	12.7%
5	£1.01	39.5%	0.0%	£0.00	0.0%	0.0%
All	£2.23	67.6%	0.0%	−£3.52	0.0%	34.4%

Source: authors' calculations based on updated data from FRS 2005-6 and TAXBEN.

Note: Assumes full take-up. Impact of tapering family element compared with baseline that includes £600 rise in PA.

Small families gained the most from the £600 rise in the personal allowance, but lose out the most from the tapering of the family elements. This reflects their typically higher incomes, and their lower entitlements to the per-child element of the tax credits.

Num	Option 1	Win	Lose	Option 2	Win	Lose	Option 3	Win	Lose
1	£1.22	50.0%	37.1%	−£1.29	49.0%	37.9%	£2.07	51.6%	35.3%
2	£7.23	52.0%	30.8%	£2.12	50.2%	32.4%	£7.64	53.9%	28.7%
3	£20.22	71.6%	14.4%	£32.54	74.8%	11.5%	£18.09	73.3%	13.0%
4	£32.19	82.6%	8.1%	£68.75	87.0%	4.1%	£25.43	82.5%	8.6%
5	£50.98	94.2%	0.0%	£122.88	95.0%	0.0%	£38.40	94.2%	0.0%
All	£7.07	54.6%	30.9%	£7.05	53.9%	31.5%	£7.07	56.3%	29.1%

Source: authors' calculations based on updated data from FRS 2005-6 and TAXBEN.

Note: Options 1-3 compared with baseline that includes £600 rise in PA.

All options give the largest cash gains to the largest families, as should be expected, although this is much more noticeably the case for option 2 which provides a sizeable “large family” premium *per child*. Option 3 provides the most even spread of gains across families with different number of children. Across all family sizes and for all options there are more winners than losers, and the proportion who are winners increases markedly with family size.

Outcome by Employment Status

Type	£600 rise in PA	Win	Lose	Taper Family Element	Win	Lose
A	£0.17	7.0%	0.0%	-£0.03	0.0%	0.3%
B	£1.16	45.6%	0.0%	-£0.17	0.0%	1.6%
C	£1.95	82.9%	0.0%	-£2.27	0.0%	24.3%
D	£0.97	37.3%	0.0%	-£0.41	0.0%	4.2%
E	£1.64	67.6%	0.0%	-£3.37	0.0%	30.8%
F	£2.43	73.5%	0.0%	-£1.92	0.0%	20.4%
G	£3.26	91.2%	0.0%	-£5.50	0.0%	54.6%
H	£3.61	90.7%	0.0%	-£5.77	0.0%	56.5%
All	£2.23	67.6%	0.0%	-£3.52	0.0%	34.4%

Source: authors' calculations based on updated data from FRS 2005-6 and TAXBEN.

Note: Assumes full take-up. Impact of tapering family element compared with baseline that includes £600 rise in PA.

A = Non-Working

B = Single, PT

C = Single, FT

D = Couple, 1 PT

E = Couple, 1 FT

F = Couple, 2 PT

G = Couple, 1 PT 1FT

H = Couple, 2 FT

The £600 rise in PA package benefits most those households with two workers, and least those non-working households. The tapering of the family element reduces incomes most for those families with children who have either one full time and one part time worker, or two full time workers. Non-working households or those with only one part time worker are least affected.

Type	Option 1	Win	Lose	Option 2	Win	Lose	Option 3	Win	Lose
A	£18.51	99.2%	0.3%	£19.27	99.2%	0.3%	£14.03	99.2%	0.3%
B	£16.56	98.4%	1.4%	£13.69	98.2%	1.5%	£11.58	98.4%	1.4%
C	£9.74	77.3%	20.8%	£6.46	76.2%	21.5%	£6.10	76.7%	21.2%
D	£19.27	95.8%	3.2%	£21.26	95.8%	3.2%	£15.45	95.8%	3.2%
E	£10.06	60.3%	26.6%	£12.06	60.1%	26.8%	£7.87	60.3%	26.5%
F	£13.93	71.7%	18.3%	£13.98	69.6%	18.3%	£20.26	71.7%	18.3%
G	£1.21	31.9%	48.8%	£0.95	30.5%	49.9%	£6.01	35.8%	44.5%
H	-£2.23	18.0%	52.3%	-£2.57	17.2%	53.2%	£0.69	21.4%	49.1%
All	£7.07	54.6%	30.9%	£7.05	53.9%	31.5%	£7.07	56.3%	29.1%

Source: authors' calculations based on updated data from FRS 2005-6 and TAXBEN.

Note: Options 1-3 compared with baseline that includes £600 rise in PA.

A = Non-Working

B = Single, PT

C = Single, FT

D = Couple, 1 PT

E = Couple, 1 FT

F = Couple, 2 PT

G = Couple, 1 PT 1FT

H = Couple, 2 FT

For all options, non-working families and those couples with only 1 part-time worker gain the most in cash terms. There are more winners than losers for all options for all families except those with 2 full-time workers, or 1 full-time and 1 part-time worker. Option 3 leads to lower gains for families with 1 or fewer workers, and provides more to households with 2 workers, particularly those with 2 part-time or 1 part-time and 1 full-time (although in the latter case there remain more losers than winners).

Outcome by Family Type

Type	£600 rise in PA	Win	Lose	Taper Family Element	Win	Lose
Couple	£2.73	79.3%	0.0%	−£4.55	0.0%	44.2%
Lone	£0.85	35.1%	0.0%	−£0.67	0.0%	7.2%
All	£2.23	67.6%	0.0%	−£3.52	0.0%	34.4%

Source: authors' calculations based on uprated data from FRS 2005-6 and TAXBEN.

Note: Assumes full take-up. Impact of tapering family element compared with baseline that includes £600 rise in PA.

Gains from the £600 rise in the PA are larger for couples than lone parents, but couples lose out more from the tapering of the family element of the child tax credit.

Type	Option 1	Win	Lose	Option 2	Win	Lose	Option 3	Win	Lose
Couple	£4.13	40.6%	39.8%	£4.77	39.8%	40.5%	£5.68	43.0%	37.4%
Lone	£15.23	93.3%	6.2%	£13.38	92.9%	6.4%	£10.92	93.1%	6.3%
All	£7.07	54.6%	30.9%	£7.05	53.9%	31.5%	£5.68	43.0%	37.4%

Source: authors' calculations based on uprated data from FRS 2005-6 and TAXBEN.

Note: Options 1-3 compared with baseline that includes £600 rise in PA.

Gains are larger for lone parents than couples: under all policies, more than 90% of lone parent families gain. Gains are smallest for couples under option 1 and largest under option 3.

Outcome by Ethnicity

Type	£600 rise in PA	Win	Lose	Taper Family Element	Win	Lose
A	£2.28	68.9%	0.0%	−£3.64	0.0%	35.6%
B	£1.93	62.7%	0.0%	−£2.37	0.0%	25.6%
C	£2.43	74.4%	0.0%	−£4.24	0.0%	37.6%
D	£1.39	52.8%	0.0%	−£1.16	0.0%	13.1%
E	£1.74	51.7%	0.0%	−£2.27	0.0%	21.1%
F	£2.01	56.1%	0.0%	−£3.48	0.0%	35.0%
All	£2.23	67.6%	0.0%	−£3.52	0.0%	34.4%

Source: authors' calculations based on uprated data from FRS 2005-6 and TAXBEN.

Note: Assumes full take-up. Impact of tapering family element compared with baseline that includes £600 rise in PA.

A = White

B = Mixed

C = Indian

D = Pakistani/Bangladeshi

E = Black

F = Chinese and Other

Gains from the £600 rise in the PA are largest for Indian and White ethnic groups and smallest for those of Pakistani or Bangladeshi origin. The tapering of the family element most affects Indian and White ethnic groups, and least affects families headed by someone of Pakistani or Bangladeshi origin.

Decile	Option 1	Win	Lose	Option 2	Win	Lose	Option 3	Win	Lose
A	£6.48	52.6%	32.1%	£6.17	51.9%	32.7%	£6.66	54.5%	30.2%
B	£9.07	65.4%	22.3%	£6.45	65.4%	22.3%	£8.93	65.2%	22.4%
C	£5.63	50.8%	34.4%	£5.04	49.6%	36.3%	£6.17	52.4%	33.0%
D	£20.38	88.0%	8.0%	£28.70	88.0%	8.0%	£16.46	88.0%	8.0%
E	£11.94	73.2%	18.4%	£13.67	73.6%	18.7%	£10.66	74.0%	17.9%
F	£6.56	57.6%	32.4%	£6.25	56.5%	32.2%	£5.45	57.3%	31.7%
All	£7.07	54.6%	30.9%	£7.05	53.9%	31.5%	£7.07	56.3%	29.1%

Source: authors' calculations based on updated data from FRS 2005-6 and TAXBEN.

Note: Options 1-3 compared with baseline that includes £600 rise in PA.

A = White

B = Mixed

C = Indian

D = Pakistani/Bangladeshi

E = Black

F = Chinese and Other

For all options, gains are largest for families whose head is Pakistani or Bangladeshi, with this particularly noticeable under option 2 due to large family sizes. Gains are smallest for families headed by someone of Indian background, due to the relatively high incomes for this group.

Work incentives

Policy can affect work incentives in two ways: by affecting the incentive to work at all (the 'extensive' margin of choice) and by affecting the number of hours you work, conditional on working (the 'intensive' margin). High marginal rates of taxation reduce the incentive to increase hours (or earnings), whilst increasing the level of income out-of-work relative to in-work reduces the incentive to work at all. Changes to tax credits often affect work incentives of first and second earners in couples in different ways.

Options 1 and 2 weaken both the incentive to work at all, and the incentive to increase hours/earnings if working, with both leading to a significant rise in the number facing an marginal effective tax rate of approximately 70% (excluding employers NI): income tax, national insurance and withdrawal of the tax credits. Option 1 increases the numbers facing such rates by about 0.5 million, and option 2 by about 0.4 million. Higher marginal effective tax rates, combined with the higher levels of income resulting from these policies would act to reduce the supply of labour from eligible families with children.

Option 3 generally weakens work incentives for lone parents, but can increase the incentive to work at all for second earners in low- to moderate-income couples with children due to the new earnings disregard.

Child poverty

The estimated impact of these policies on child poverty in 2010-11² is:

Option 1: reduces child poverty by 600,000

Option 2: reduces child poverty by 700,000

Option 3: reduces child poverty by 500,000

These falls in child poverty are in addition to the falls expected under current government policy. I.e. they assume that the Government implements the already-

² Assuming the government continues to implement its already planned increases in generosity of tax credits and housing benefit *in addition* to the above policy options.

announced increases in generosity of tax credits and housing benefit *in addition* to the above options, and that these options are uprated in the usual way between now and 2010/11.

Summary

All three policy options are strongly redistributive, although this is particularly the case for options 1 and 2. Option 3 improves work incentives for (potential) second earners in low income couples, but, before considering behavioural response, reduces poverty by the smallest amount (500,000), whilst option 2 reduces it by the most (700,000). The latest IFS estimate is that the Government is on track to miss its child poverty target in 2010 by around 550,000: options 1 and 2 therefore represent policy packages that should give the government a more than 50-50 chance of meeting its 2010 target.

Appendix: Impact of Reforms on some Example Families

Family Characteristics	Option 1	Option 2	Option 3
2 earner couple, both working 16 hours per week at minimum wage with a baby less than 1 year old.	+£10.29	+£5.49	+£37.62
Lone parent, not working, with 2 children.	+£20.58	+£10.96	+£13.85
Couple, 1 worker, working 40 hours at minimum wage, with 4 children	+£41.20	+£83.50	+£27.74
Couple, 2 earners, one working 40 hours at £12 per hour, the other, 16 hours at minimum wage. 2 children.	+£8.75	-£0.87	+£23.53
Couple, 1 earner, working 40 hours at £15 per hour. 2 children.	-£3.20	-£10.48	-£9.01

Note: Figures are net gains (£s per week) from the reform options. Minimum wage as of October 2008, £5.73 per hour.

Additional Notice

Please note that the distributional analysis uses McClement's equivalence scales to adjust incomes for family size, whereas the poverty projections use income that is adjusted using the modified OECD scale. The reason for this difference is that the latter is used in defining the government's poverty targets.