

IFS

Options for a UK 'flat tax'

Some simple simulations

Stuart Adam
James Browne

The Institute for Fiscal Studies

IFS Briefing Note No. 72

Options for a UK ‘flat tax’: some simple simulations

*Stuart Adam and James Browne**

Institute for Fiscal Studies

August 2006

Abstract

This Briefing Note analyses the effects of four possible flat tax systems for the UK: one that flattens the rate structure of income tax only, one that also flattens National Insurance contributions, and two that flatten the combined rate structure of income tax and tax credits (with and without flattening National Insurance contributions as well). In all cases, the tax base is left unchanged. The analysis is conducted for the working-age population only, and in all cases the reforms are designed to be revenue neutral under the strong assumption that people do not change their behaviour in response to the reforms. We examine the effects of the reforms on particular example families and on the overall distributions of income and work incentives.

1. Introduction

Discussions of the merits of introducing a ‘flat tax’ are frequently hampered by the lack of a common definition of the term.

The narrowest conceptions involve just flattening the rate structure of income tax – although even this leaves open the question of whether a tax-free personal allowance would be retained, which would mean that there were in effect two marginal rates (0% and the flat tax rate) and would have important implications for potential simplification of income tax administration.

Other conceptions take a broader view of exactly what should be ‘flat’. The principle that each pound of income should be taxed at the same rate could be taken to imply any of the following, for example:

* The authors are grateful to the Joseph Rowntree Foundation for funding this project, to Mike Brewer, Robert Chote, Donald Hirsch and Alex Klemm for discussions and comments on earlier drafts, and to Judith Payne for copy-editing. All errors and omissions are the responsibility of the authors.

- Exemptions, reliefs and allowances should be eliminated en masse.
- A single marginal rate should apply not to income tax in isolation but to the total amount taken from each pound of income by the combination of income tax, National Insurance contributions (NICs), and perhaps withdrawn tax credits and even social security benefits – moving towards an integrated flat-rate ‘negative income tax’ scheme.
- Corporate income should be taxed at the same flat rate as personal income.

Indeed, the seminal text advocating a flat tax, Hall and Rabushka’s *The Flat Tax*,¹ proposes a wholesale redesign of the personal and corporate income tax system, notable as much for being an expenditure tax system (i.e. one with no net taxation of savings) as for being a flat-rate system.

Clearly, these different versions of a flat tax have radically different implications. In this Briefing Note, we do not assess the merits of a flat tax in any of these forms. Instead, we merely model four simple variants, to illustrate the different flat tax rates implied by different versions and their different effects on incomes and work incentives.

The remainder of the Briefing Note is structured as follows. Section 2 describes the flat tax systems we model. Section 3 shows how the different options for a flat tax affect some example families, while Section 4 analyses their overall distributional effects and Section 5 examines how work incentives are affected. Section 6 concludes.

2. Description of the four flat tax systems

The flat tax systems analysed in this Briefing Note are designed to be broadly revenue neutral: the flat tax rate is set so that government revenues are broadly unchanged from current levels.² However, we arrive at these ‘revenue-neutral’ rates only by restricting our analysis in two important ways.

First, we model only the direct effects of the reforms: we assume that people do not change their behaviour in response to the reforms. This is important; given the magnitude of the reforms under consideration, such responses are likely to be very large – indeed, inducing a behavioural response is often a key aim of those advocating a flat tax – and have major implications for government revenues and for the rate at which a flat tax would need to be set to maintain current revenue levels. Estimating people’s likely responses would be difficult:

¹ R. E. Hall and A. Rabushka, *The Flat Tax*, 2nd edition, Hoover Institution Press, Stanford, CA, 1995.

² In fact, we estimate that option 1 would cost £470 million, option 2 would cost £1 billion, option 3 would raise £330 million and option 4 would cost £500 million. These sums are relatively small: even option 2 would require less than a quarter of a percentage point adjustment in the flat tax rate to make it precisely revenue neutral under our assumptions.

it is difficult to assess the likely direction, let alone size, of the effect on employment and hours worked, for example, because the reforms we consider affect different people's work incentives in different and complicated ways (see Section 5).³ But because we ignore these important effects, the 'revenue-neutral' rates presented below should *not* be interpreted as definitive best estimates of the flat tax rate that would make the policies revenue neutral in practice; they are merely intended to illustrate the radically different rates that could result from different versions of a flat tax.

Second, the entire analysis is restricted to the working-age population: we exclude all families containing someone aged 60 or over. We do this in order to avoid having to take a stance on what would happen to the higher personal allowance for those aged 65 or over, the married couple's allowance for those born before April 1935, and the pension credit for those aged 60 or over, under a flat tax system. In practice, these issues would have to be considered in conjunction with a flat tax reform – particularly since some of the reforms we consider (specifically those involving tax credits) would by default involve massive redistribution from pensioners to the working-age population. But how generously pensioners should be treated relative to others, and what form such support should take, are thorny issues that are not the focus of this paper. The reforms we model are therefore designed to be revenue neutral (assuming no behavioural response, as discussed above) *among the working-age population*: we assume no redistribution between pensioners and the working-age population, and leave open how a counterpart revenue-neutral reform for those aged 60 or over might be designed.

The four options for a flat tax that we model are as follows:⁴

1. *Flat-rate income tax*. This is probably the simplest version of a flat tax, and is often what is meant by commentators in the media, although not generally in the flat tax literature. We replace the current 10%, 22% and 40% income tax rates (and the 20% lower rate on savings income) with a single rate, estimated to be 24%. The tax-free personal allowance is kept at its current level of £5,035 per year.⁵

³ Work patterns are only one thing that could change as a result of the reforms. Many proponents of a flat tax argue that it would reduce tax avoidance and/or evasion, which could also have significant implications for tax revenues and therefore the required flat rate.

⁴ For a description of the current system, see S. Adam and J. Browne, *A Survey of the UK Tax System*, IFS Briefing Note no. 9, www.ifs.org.uk/bns/bn09.pdf, 2006.

⁵ Many flat tax proposals involve substantially increasing the personal allowance, paid for by a higher flat rate. Under the same strong assumptions as above, we estimate that increasing the allowance to £7,185 (the top of the current 10% band) would require a rate of 27% and an allowance of £10,000 would require a rate of 31%.

2. *Flat-rate income tax and NICs.* In most respects, National Insurance contributions now act like just another income tax, so it might seem natural to flatten their rate structure too.⁶ This essentially involves abolishing the upper earnings limit (UEL), thereby increasing the rate that applies above the current UEL from 1% to the full rate (11% for employees contracted into the state second pension, lower for the self-employed and those contracted out).⁷ The extra revenue generated by abolishing the UEL allows the flat income tax rate to fall to 22%, coincidentally the same as the current basic rate. In this option, income tax and NICs in combination produce a flat marginal rate of 33% for contracted-in employees (above the income tax personal allowance / NICs earnings threshold), whereas under option 1 the combined rate is 35% up to the UEL and 25% above it.
3. *Flat-rate income tax with universal tax credits.* This option takes seriously the idea that tax credits are part of the income tax system, and flattens their combined rate structure. Instead of the current system, where part of any additional income can be lost to income tax, tax credit withdrawal or both, leading to widely varying marginal rates, we flatten them into a single tax/withdrawal rate. Thus each family is allocated a tax credit that is equal to their maximum eligibility under the current system (depending on the number of adults and children in the family, working hours, spending on formal childcare, and any disabilities). But rather than means-testing this tax credit independently of income tax, each individual is allocated a personal allowance and all income above this level is subject to a flat tax rate. The personal allowance is raised slightly from the current level of £5,035 to £5,220, the point at which tax credits currently start to be withdrawn, to avoid creating losers among the working poor, and we estimate the flat tax rate at 37%, coincidentally the same as the current tax credit withdrawal rate. (Box 1 discusses the choice of individual versus family allowances.) This option essentially amounts to making tax credits universal and paying for removal of the means test by raising the flat tax rate to something approaching the current higher rate of income tax.

⁶ Throughout this Briefing Note, we use NICs to refer only to employee and self-employed contributions. Employer contributions are already flat-rate (apart from contracted-out rebates), so bringing them within the flat-rate structures discussed here would have little impact.

⁷ A more radical alternative would be not merely to flatten the rates of income tax and NICs independently but to integrate them into a single flat-rate tax on income. However, the integration of income tax and National Insurance raises more complicated questions such as how to deal with the remaining link between National Insurance contributions and benefits, the treatment of the self-employed, employers' contributions and the treatment of savings income. Ongoing work by one of the present authors is examining these questions in detail, but for this Briefing Note we avoid such complexities and instead focus on flattening the rate structure of each tax.

Box 1. The unit of assessment

Currently, income tax is assessed on individual income, while tax credits are means tested against joint family income. Under flat tax systems in which income tax and tax credits are integrated, there is therefore a choice to be made: do we provide an allowance for each individual (as with income tax) or one per family (as with tax credits)? If one per family, is it set at the same level for couples as for single people?

Here, we choose to keep independent taxation, giving each individual an allowance. This is more generous than giving couples a joint allowance equal to that for single people, but less generous than giving them a joint allowance equal to double that for single people. Relative to the current system, our approach benefits two-earner couples, who can earn £5,220 each rather than £5,220 between them before they start facing tax / tax credit withdrawal.

This question of independent versus joint assessment is much less potent under a flat tax than under the existing system. If we attempted to integrate income tax and tax credits without moving to a flat tax, the choice of unit of assessment would have much bigger implications: with widely varying marginal rates, a system with only individual income assessment would give very different results from a system with only joint income assessment, and a move to either would create big winners and losers relative to the current system and be highly controversial. Under a flat tax, however, the question is reduced to what kind of allowance to provide, with much smaller implications for individual and family incomes.

4. *Flat-rate income tax and NICs with universal tax credits.* This combines options 2 and 3: the tax credit means test is integrated into the income tax rate, and the NICs rate schedule is also flattened, allowing the flat tax rate to fall to 35%.⁸ Thus there is a flat combined marginal rate of income tax, tax credits and NICs of 46% for contracted-in employees, whereas under option 3 the rate is 48% below the UEL and 38% above it.

This last option would constitute a major move towards a tax and benefit system with a constant effective marginal tax rate (i.e. one in which each additional pound of income, earned by any individual, is taxed at the same rate). It is still some way from reaching that point, however, because means-tested benefits – income support, income-based jobseeker’s allowance, housing benefit and council tax benefit – which dramatically increase the effective marginal tax rates faced by low-income families, are not integrated into the

⁸ The NICs earnings threshold is increased slightly to keep it aligned with the flat tax allowance.

flat-rate system. A complete integration of the tax and benefit system is beyond the scope of this Briefing Note, however.⁹

The four options for a flat tax that we model are summarised in Table 1. These collectively cover only a narrow range of the possible flat taxes suggested by Section 1. In particular, they address only the rate structure of taxes, not the tax base to which they apply: savings income is still taxed more heavily than earnings because NICs are assessed on earnings only whereas income tax and tax credits are assessed on a wider definition of income; there is no attempt to simplify the system of allowances, reliefs and exemptions that currently applies to income tax and NICs; and the taxation of companies, dividends and capital gains is untouched. But note that, just using figures in Table 1, it would be possible to describe ‘the required flat tax rate in the UK’ as anything from 22% (the flat income tax rate under option 2) to 46% (the flat rate of combined income tax and tax credits, plus NICs, under option 4). These numbers could easily be lower (if we assumed that people would work harder or avoid/evade tax less as a result of the reforms – see beginning of Section 2) or higher (if the personal allowance were raised – see footnote 5), let alone if more radical versions of a flat tax were adopted. This underlines why statements about the required flat tax rate in the UK must be precise in terms of what is being discussed.

Since none of our reforms involves changing the tax base significantly, the revenue effect of a 1 percentage point change in the flat tax rate would be the same as that of a 1 percentage point change in all income tax rates under the current system, which we estimate to be around £4.5 billion (remembering that we assume that this applies only to the working-age population and that there is no behavioural response to the reform).¹⁰

Table 1. Four options for a flat tax

		<i>Is the tax credit taper abolished?</i>	
		No	Yes
<i>Is National Insurance also flattened?</i>	No	<i>Option 1</i> Flat tax rate of 24%, no change to NICs	<i>Option 3</i> Flat tax rate of 37%, no change to NICs
	Yes	<i>Option 2</i> Flat tax rate of 22% and flat NICs rate of 11%	<i>Option 4</i> Flat tax rate of 35% and flat NICs rate of 11%

Note: See text for further details.

⁹ A. W. Dilnot, J. A. Kay and C. N. Morris, *The Reform of Social Security*, Oxford University Press, Oxford, 1984, is a classic, albeit dated, analysis of complete tax–benefit integration, though not in a flat tax context.

¹⁰ HM Treasury, *Tax Ready Reckoner and Tax Reliefs*, www.hm-treasury.gov.uk/media/FA1/96/pbr05_taxreadyreckoner_223.pdf, 2005, estimates that a 1 percentage point change in all rates, applied to the whole population but still assuming no behavioural response, would change revenue by £5.7 billion.

We now go on to consider the effects of these reforms on the incomes of some example families.

3. The effect of the flat tax options on particular families

In this section, we show the effects that the different flat tax options have on example families of different types and incomes. We begin by describing in detail the effect of the four systems on a single person without children as their income increases, by looking at changes to the combined marginal rates of tax (and sometimes tax credit withdrawal) faced at different levels of income and hence the overall effect on net income.

Figure 1 shows the effect of option 1, the simplest version of a flat tax we consider, on the income tax rate schedule. The 24% flat tax rate is higher than the current starting rate (10%) and basic rate (22%) but lower than the higher rate (40%). We can therefore see that anyone who is currently a starting-rate or basic-rate taxpayer would be worse off under a flat tax system because they are paying an increased rate of tax on all their taxable income. The amount lost increases in cash terms as income increases up to the higher-rate threshold, and only then starts to decline as the gains from having a 24% flat tax rate rather than a 40% higher rate are felt. Thus the biggest loser in cash terms would be someone with income exactly at the effective higher-rate threshold (currently £38,335 per year), who would lose £924 per year or £17.77 per week. The break-even point is £44,110 – anyone with income below this level (but above the £5,035 personal allowance) would lose out, and anyone with income above this level would benefit from the reform as the gains from eliminating the higher rate outweigh the losses from increased tax rates on lower tranches of income.¹¹

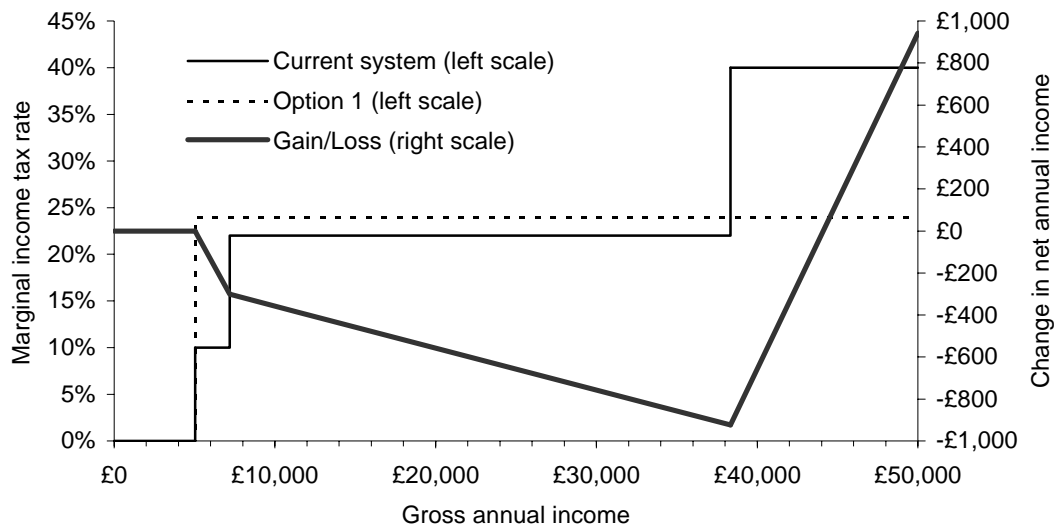
The reformed income tax schedule shown in Figure 1 is flat. But, as shown in Figure 2, the combined income tax and NICs schedule for option 1 would not be flat, since the NICs rate would still fall to 1% at the UEL. A flat combined income tax and NICs schedule is achieved by option 2, and is shown in Figure 3.

With the flat tax rate equal to the basic rate of income tax at 22%, the combined marginal rate of income tax and NICs faced by basic-rate taxpayers earning less than the UEL is unchanged at 33%. The abolition of the starting rate of income tax reduces the income of all of these individuals by around £5 per week or £258 per year. Starting-rate taxpayers also lose out, though by less than this in cash terms. As income increases between the UEL and the higher-

¹¹ Flat tax proposals that incorporate increased personal allowances, as discussed in footnote 5, would imply gains rather than losses for the lowest-income taxpayers. This would come at the expense of those with middle and higher incomes, who would be hit by the higher rate needed to pay for the increased allowance. But there would still be gains for those with the highest incomes as long as the flat tax rate remained below the current higher rate.

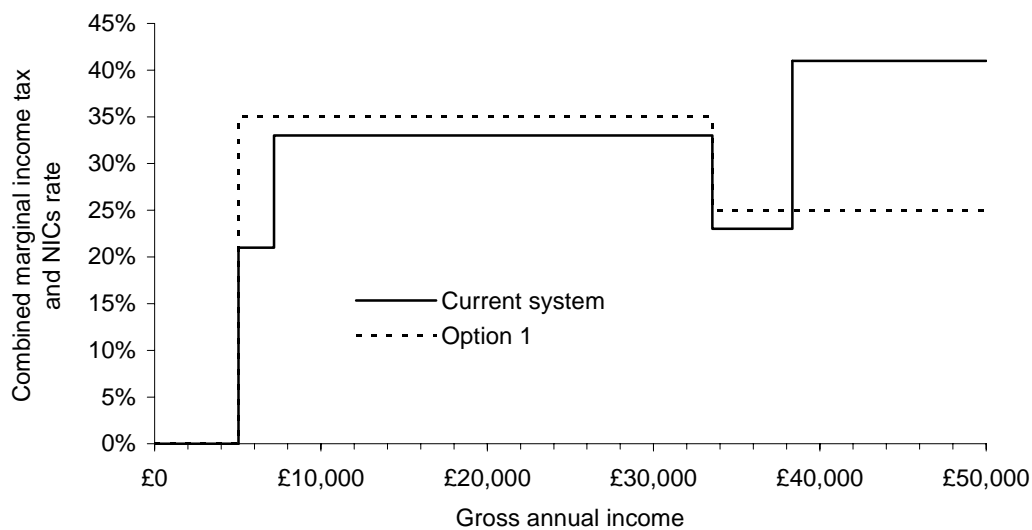
rate threshold, the amount lost increases until it reaches £14.18 per week or £738 per year at the higher-rate threshold. From then on, as the higher rate of income tax is effectively abolished – albeit now offset by the rise in the NICs rate above the UEL – the level of loss starts to fall to the point where someone earning £47,553 sees their net income unaffected by the reform. Anyone earning more than this amount gains, with the cash gain increasing by 8p for every additional pound of income.

Figure 1. Effect of option 1 (flat income tax) on the income tax schedule and on net income



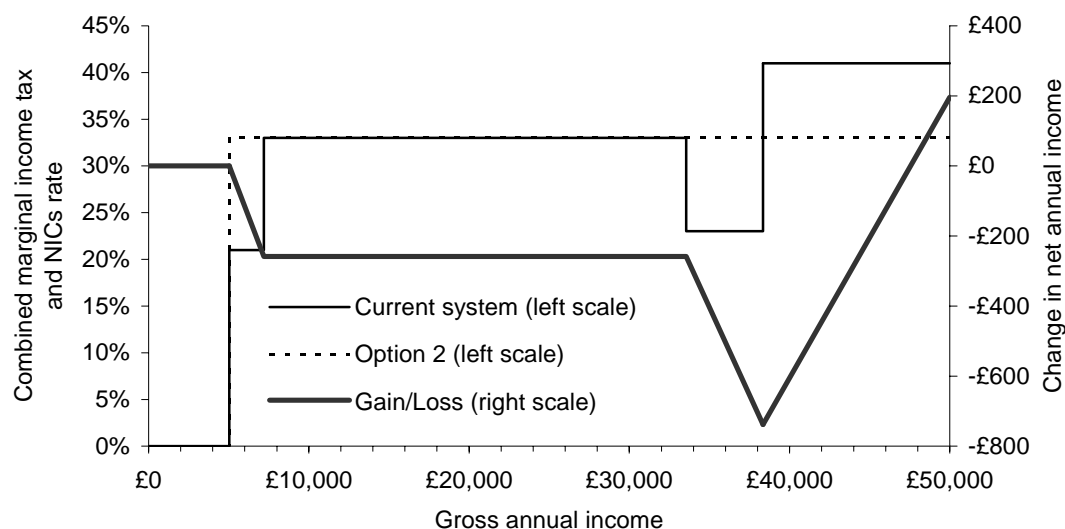
Note: Assumes individual is aged under 60.

Figure 2. Effect of option 1 (flat income tax) on the combined income tax and NICs schedule



Note: Assumes individual is aged under 60, in continuous year-round work of at least 30 hours per week, with no other source of income, and contracted into the state second pension.

Figure 3. Effect of option 2 (flat income tax with flat NICs) on the combined income tax and NICs schedule and on net income



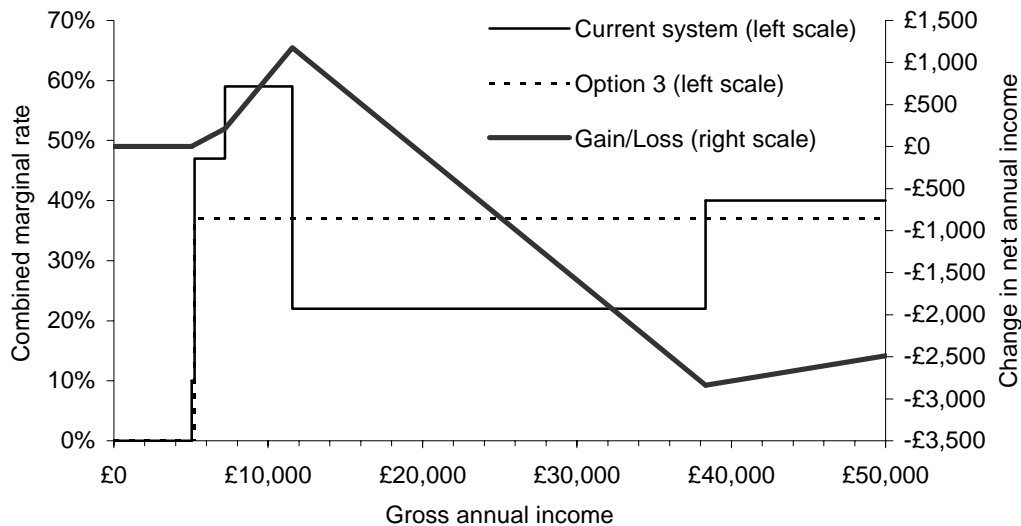
Note: Assumes individual is aged under 60, in continuous year-round work of at least 30 hours per week, with no other source of income, and contracted into the state second pension.

Figure 4 shows the effect of a flat-rate income tax with universal tax credits on the combined marginal income tax / tax credit withdrawal rate of a single person without children. When income tax and tax credits are integrated in this way, the 37% flat tax rate is substantially higher than the current basic rate of income tax, but it is slightly lower than the higher rate and substantially lower than the combination of income tax and tax credit withdrawal rates that is faced by individuals currently on the tax credit taper. Since this last group have the lowest incomes, our third flat tax variant benefits everyone who was previously on the tax credit taper, as they face a lower marginal rate on all their taxable income. The largest gain occurs at the end of the current tax credit taper (at income of £11,558 for a single person without children), where it is £22.64 per week or £1,177 per year. From this point, though, the cash gain starts to diminish as a result of the higher tax rate under the flat tax system, until it falls to zero at income of around £19,400. People between this point and the higher-rate threshold lose, with the cash loss increasing at a rate of 15p for every pound of additional income, such that the loss at the higher-rate threshold is £54.61 per week or £2,840 per year. From this point onwards, the loss declines at a rate of 3p for every pound of additional income, a very slow rate, so it would require an income of £133,000 per year for a higher-rate taxpayer to become a net beneficiary thanks to the reduction in their marginal rate.

Finally, Figure 5 shows option 4. Again we see that those on the tax credit taper are the largest gainers from a universal tax credit, with the largest gain again occurring at the end of the tax credit taper, where it is £25.46 per week or £1,324 per year. From this point on, the gain starts to diminish at a rate of 13p for every additional pound earned up to the break-even point of £21,743. Everyone earning above this amount loses out from the reform, as flattening

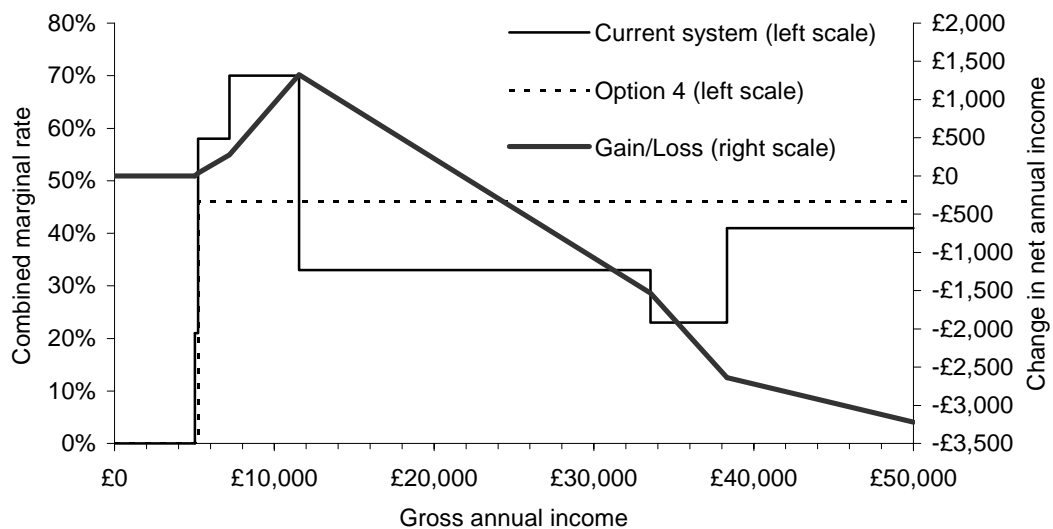
National Insurance as well as income tax means that even higher-rate taxpayers face a higher marginal rate than their current 41%, at 46%.

Figure 4. Effect of option 3 (flat income tax with universal tax credits) on the combined marginal rate of income tax and tax credit withdrawal, and on net income, for a single person



Note: Assumes individual is aged under 60 and is in continuous year-round work of at least 30 hours per week.

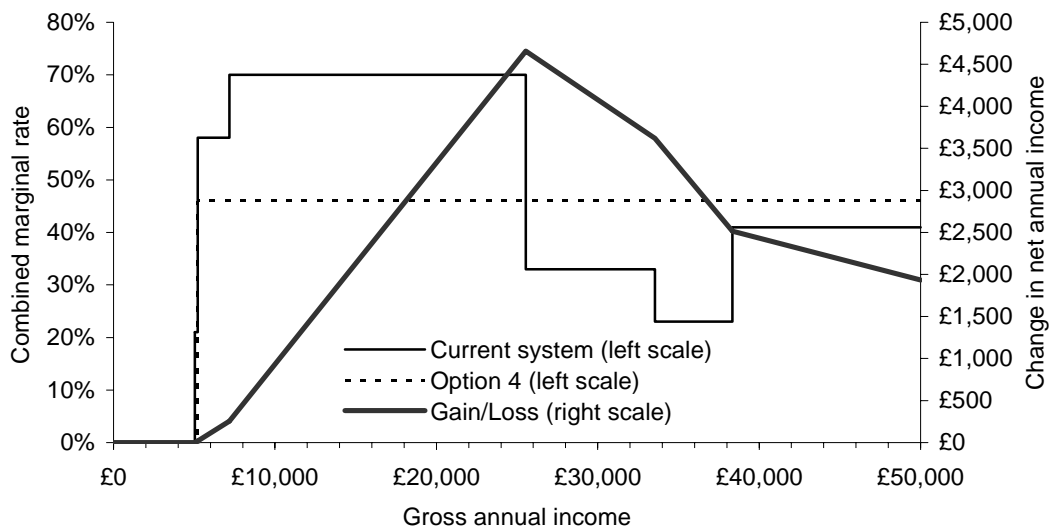
Figure 5. Effect of option 4 (flat income tax with flat NICs and universal tax credits) on the combined marginal rate of income tax, NICs and tax credit withdrawal, and on net income, for a single person



Note: Assumes individual is aged under 60, in continuous year-round work of at least 30 hours per week, with no other source of income, and contracted into the state second pension.

The analysis above has shown at what income levels a single person gains or loses from different variants of a flat tax. We now turn to look at different family types. Which existing marginal rates are higher and which lower than the flat tax rates is the same for all family types. But maximum tax credit awards vary, meaning that the taper ends at different points for different family types, and for couples the amount of a given family income that is currently subject to higher-rate income tax depends on how the family income is split between members of the couple. The size of gains and losses at given income levels therefore varies dramatically by family circumstances. This is illustrated in Figure 6, which, like Figure 5, shows the effect of option 4, but this time for a one-earner family (lone parent or couple) with two children.

Figure 6. Effect of option 4 (flat income tax with flat NICs and universal tax credits) on the combined marginal rate of income tax, NICs and tax credit withdrawal, and on net income, for a one-earner family with two children



Notes: Lone parent or couple. Assumes all adults are aged under 60 and all children are at least 1 year old, workers are in continuous year-round work of at least 30 hours per week and are contracted into the state second pension, there is no spending on formal childcare, there are no disabilities, and the family has no source of income other than the worker's earnings.

Because the maximum tax credit award is much higher for a family with two children, it continues to be withdrawn up to a much higher income level, of £25,531. Moving to a flat tax therefore involves a reduced marginal rate (46% rather than 70%) over a much larger range of income, with a much higher maximum gain, of £89.60 per week or £4,659 per year. Put simply, this family has a much higher maximum tax credit and therefore (if its income is high enough) gains more from elimination of the means test.

Table 2. Effects of the flat tax options on particular families

<i>Family description</i>	<i>Weekly gain/loss under:</i>			
	<i>Option 1 (flat income tax)</i>	<i>Option 2 (flat income tax and NICs)</i>	<i>Option 3 (flat income tax with universal tax credits)</i>	<i>Option 4 (flat income tax and NICs with universal tax credits)</i>
Family earning £5,000	No change	No change	No change	No change
Single person without children, earning £20,000 per year	–£10.72	–£4.96	–£1.72	£4.34
One-earner couple without children, earning £20,000 per year	–£10.72	–£4.96	£29.82	£35.88
One-earner family (lone parent or couple) with one child, earning £20,000 per year	–£10.72	–£4.96	£58.35	£64.41
One-earner family (lone parent or couple) with one child, earning £8,000 per year	–£6.10	–£4.96	£7.59	£9.03
One-earner family (lone parent or couple) with one child, earning £38,000 per year	–£17.64	–£13.54	£11.84	£16.24
Two-earner couple with two children, each earning £38,000 per year	–£35.29	–£27.08	–£42.28	–£33.67
Two-earner couple with three children, each earning £15,000 per year	–£17.59	–£9.92	£111.54	£119.81
Two-earner couple without children, each earning £38,000 per year	–£35.29	–£27.08	–£120.84	–£112.04
Two-earner couple without children, one earning £60,000, the other £16,000, per year	£39.72	£14.19	–£45.84	–£70.77

Notes: Assumes all adults are aged under 60 and all children are at least 1 year old, workers are in continuous year-round work of at least 30 hours per week and are contracted into the state second pension, there is no spending on formal childcare, there are no disabilities, and earnings are the only source of income.

Rather than go through each possible set of family circumstances in detail, Table 2 shows how the incomes of a variety of example families are affected by the different flat tax variants we consider. It illustrates several features of the flat tax reforms:

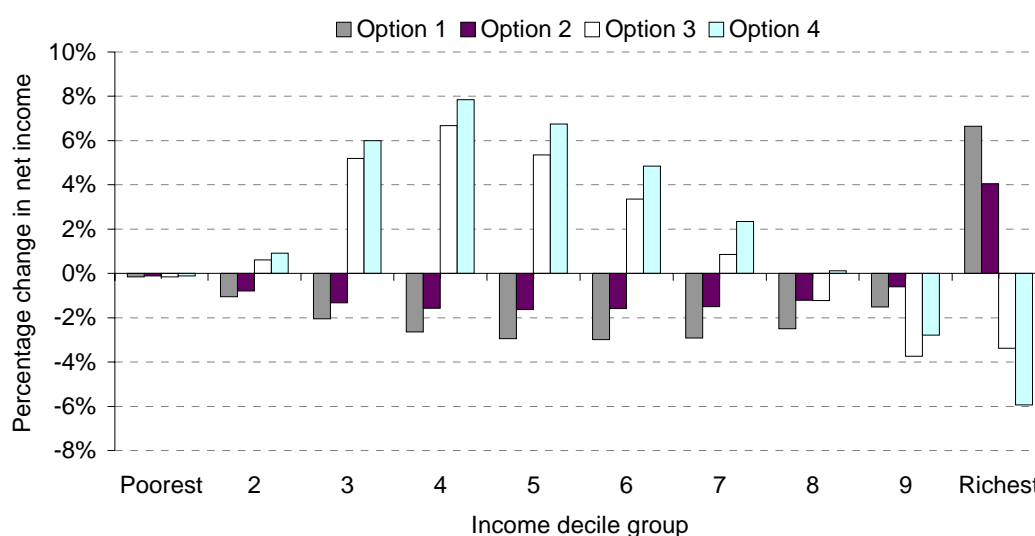
- Families with incomes of £5,000 or lower are not affected by any of the flat tax reforms that we consider: they pay no income tax or NICs, and are entitled to maximum tax credits, both before and after the reforms.
- Families with children do well from the flat tax systems that incorporate tax credits: both the one-earner family earning £20,000 and the two-earner family with each earning £38,000 do much better from the reforms if they have children. If tax credits are not integrated, of course, these families are affected in the same way regardless of whether they have children.
- The one-earner couple with a child does better on £20,000 than on £38,000 under all systems. But options 3 and 4 do not simply treat lower-income families better: a single earner with a child gains much more on £20,000 than on £8,000, as with £8,000 of earnings the family already pays little tax and loses little of its maximum tax credit, while with £20,000 of earnings the family currently has all of its maximum tax credit tapered away so it has more to gain from it being made universal.
- The biggest gainers from a flat tax incorporating tax credits are the couple with three children around the end of the tax credit taper (£30,000 of family income), as they have the biggest maximum tax credit and it no longer gets tapered away.
- The biggest losers are the two-earner couple without children on £38,000 each: since the earnings are split so that neither is a higher-rate taxpayer, they face a big rise in the tax rate on all their income, and (for options 3 and 4) the absence of children means that their maximum tax credit is small.
- High-income couples do much better if a given family income is split unevenly (£60,000 and £16,000 rather than £38,000 each). Because the current income tax system is progressive and individually assessed, families on a given income currently pay more tax if the income is split unevenly, as an uneven split leaves more of the income subject to higher rates of tax. Under a flat tax, the income split matters less (and is completely irrelevant if both partners earn more than the personal allowance), so families with an uneven split stand to gain more (or lose less) relative to the current situation.
- The two-earner couple earning £60,000 and £16,000 is the only family type to gain from option 1 or 2: most family types at most income levels lose out under a flat tax that does not integrate tax credits.
- The couple on £60,000 and £16,000 is also the only one that does worse if NICs are also flattened. Only those with very high (individual) incomes prefer a (much) lower rate above the UEL in exchange for a (slightly) higher rate below it.

4. Distributional effects of the flat tax options

Of course, no small selection of example families is truly representative, and those in Table 2 were chosen specifically to illustrate particular points. To get a clearer perspective on the overall distributional effects of the various flat tax options, we look at the effects across the whole population.

Figure 7 splits families in the UK into 10 equal-sized groups according to their income (adjusted for family composition) and examines how much their net income would change under each of the flat tax options under consideration.

Figure 7. Effects of the flat tax options across the income distribution



Notes: Income decile groups are based on net family income adjusted for family composition using the McClements equivalence scale. Excludes families in which someone is aged 60 or over.

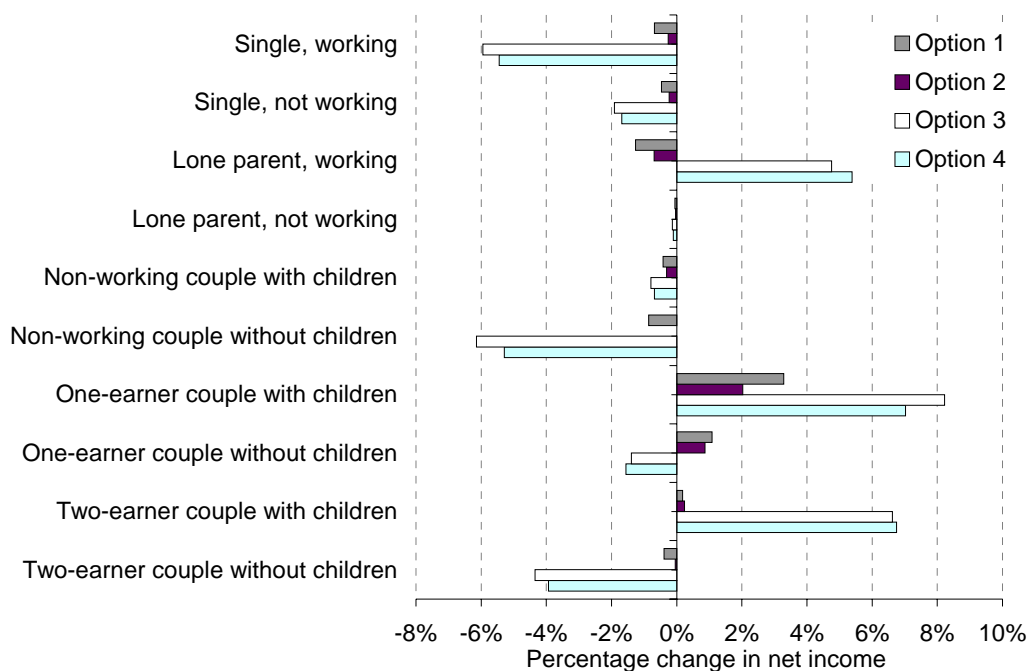
Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on updated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

We can clearly see that introducing a flat income tax in the way described to replace the current rate structure (option 1) constitutes redistribution to the rich – only the highest-income tenth of the population benefits while all the other decile groups lose out to varying degrees. By contrast, abolishing the tax credit taper at the same time (option 3) benefits those just below the middle of the income distribution, who do not pay that much tax but are near or just off the end of the tax credit taper. In both cases, flattening NICs as well (option 2 and option 4 respectively) is relatively better for lower-income groups, as increasing the NICs rate on just those earning above the UEL pays for an across-the-board reduction in the flat tax rate.

Figure 7 showed that the main distributional effect of the flat tax options without universal tax credits (1 and 2) is to cut taxes for the rich. Figure 8 adds nuance to this: the big gainers as a percentage of income are one-earner couples, not two-earner couples, since, with their income split between earners, a lower proportion of two-earner couples' income is currently taxed at the

higher rate. Indeed, two-earner couples without children are net losers on average, though the biggest losers (as a proportion of income) are working lone parents. Figure 8 also shows that the systems with universal tax credits (options 3 and 4) primarily redistribute money from those in work who do not have children to those who do: maximum child tax credit becomes available to families with children all the way up the income distribution, paid for by a higher tax rate which is shared among those with and without children.¹² In the light of this massive redistribution from families without children to families with children, Figures 9 to 12 show how the four flat tax options affect the incomes of families with and without children in each income decile group separately.

Figure 8. Effects of the flat tax options by family type

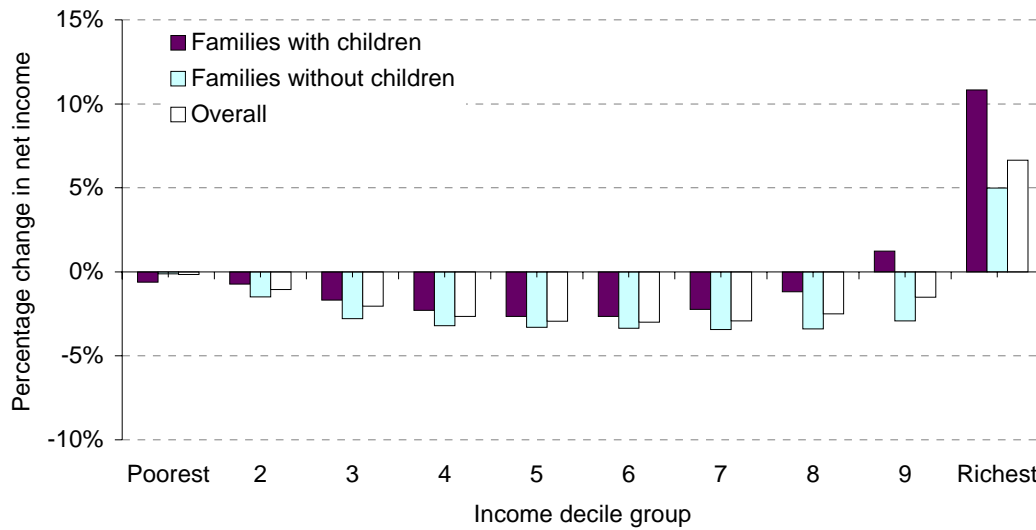


Note: Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on updated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

¹² Non-working families are generally little affected as they pay little tax and have little of any tax credit withdrawn in any case. The exception is non-working couples without children, a group which (despite a low average income) contains many people who are on incapacity benefit or have retired early and are receiving private pension income; these taxable sources of income attract a much higher rate of tax under options 3 and 4 than under the current system.

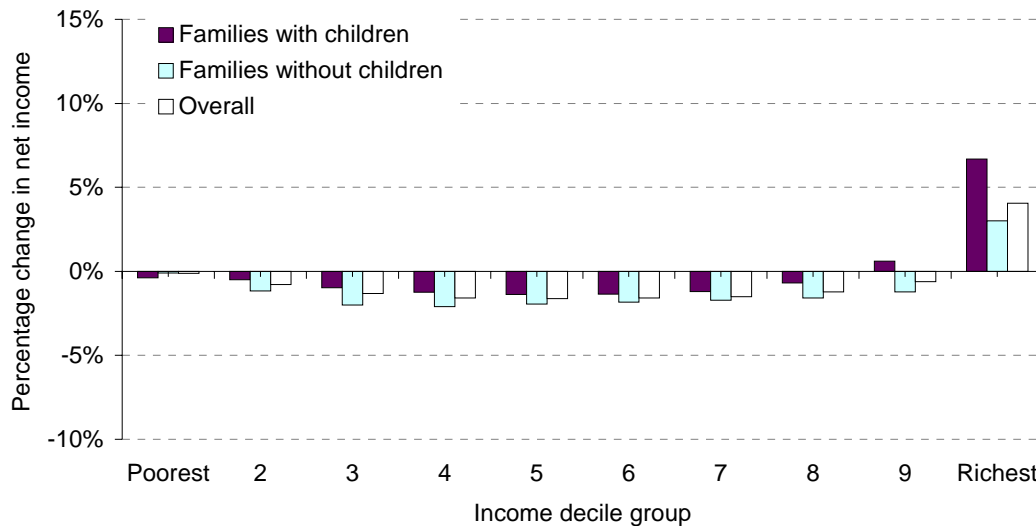
Figure 9. Distributional effects of option 1 (flat income tax) for families with and without children



Notes: Income decile groups are based on net family income adjusted for family composition using the McClements equivalence scale. Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on uprated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

Figure 10. Distributional effects of option 2 (flat income tax and NICs) for families with and without children



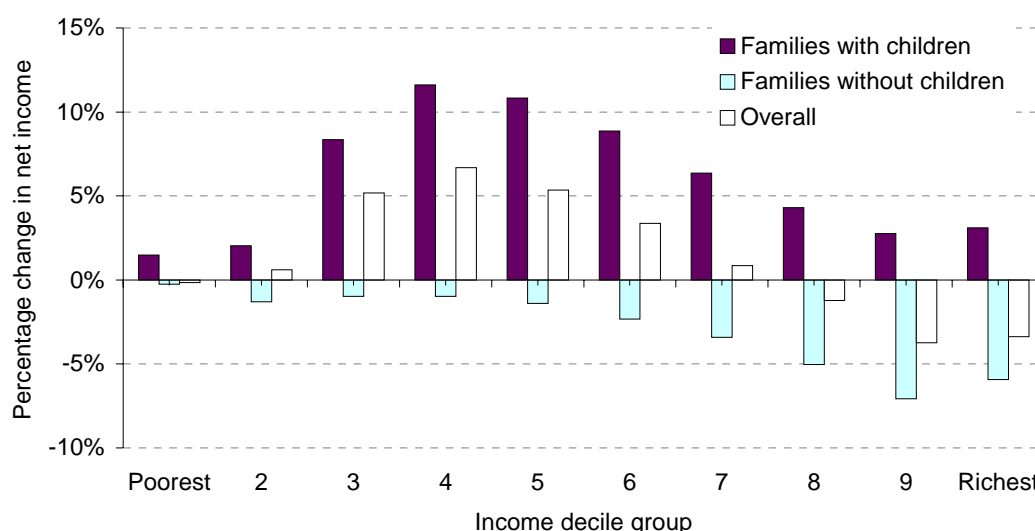
Notes: Income decile groups are based on net family income adjusted for family composition using the McClements equivalence scale. Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on uprated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

The flattening of the income tax structure does not affect families with and without children in particularly different ways (Figure 9), but families with children do somewhat better, particularly towards the top of the income distribution. This is for two reasons. First, families in a given decile group are likely to have higher incomes if they have children (because we adjust income for family size before assigning families to decile groups), and are thus likely to gain more since the main effect of the reform is to redistribute from low-income to high-income families. Second, a given family income is more likely to be split between adults in families without children (it is more likely that both members of a couple will go out to work if there are no children to look after), with more being taxed at higher rates under the current rate structure and therefore more to be gained from it being flattened. Flattening NICs as well as income tax (Figure 10) does not change these results greatly. The main difference is that, as noted above, it makes the system slightly less regressive: the first to eighth decile groups do not lose as much and the top decile group does not gain as much.

The flat tax systems incorporating tax credits (Figures 11 and 12) redistribute money both from high-income to low-to-middle-income families and from those without children to those with children. The large gains, peaking in the fourth decile group, are primarily gains for low-to-middle-income families with children; the large losses, peaking in the ninth or tenth decile group, are primarily losses for high-income families without children. Once again, the main effect of flattening NICs as well is to make the system somewhat more progressive overall.

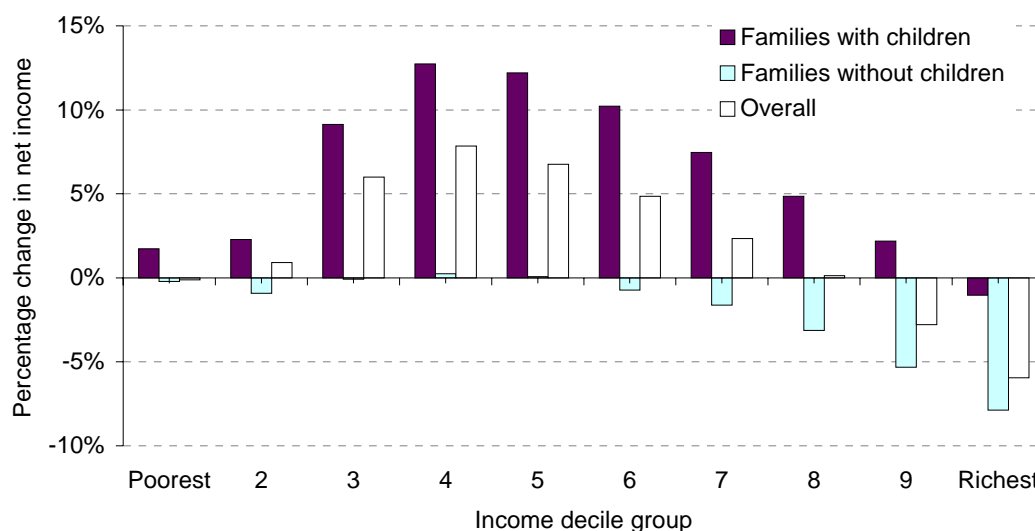
Figure 11. Distributional effects of option 3 (flat income tax with universal tax credits) for families with and without children



Notes: Income decile groups are based on net family income adjusted for family composition using the McClements equivalence scale. Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on updated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

Figure 12. Distributional effects of option 4 (flat income tax and NICs with universal tax credits) for families with and without children



Notes: Income decile groups are based on net family income adjusted for family composition using the McClements equivalence scale. Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on updated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

5. Effects of the flat tax options on work incentives

As one measure of the work incentives, we calculate an effective marginal tax rate (EMTR) for each individual. This is the proportion of a small increase in earnings that would be lost to the combination of income tax, NICs and withdrawal of tax credit and means-tested benefits. It measures the incentive for the individual to increase their earnings by a small amount, whether by working longer hours, by seeking bonuses or promotion, or by getting a better-paid job.¹³ In this section, we examine how individuals' EMTRs would be affected by the different flat tax options.

For all except option 2, most people see their EMTR rise (i.e. a weakening of work incentives). This is because most people are basic-rate taxpayers not currently facing withdrawal of tax credits; since the flat tax rate is higher than the basic rate of income tax in all cases except option 2, this bulk of people see a weakening of the incentive to increase their earnings. (Under option 2, about 9–10% see their EMTR rise, a similar number see it fall and the large majority are unaffected.)

However, the *size* of the rise for those whose EMTR rises is not the same as the size of the fall for those whose EMTR falls. In fact, the average EMTR is

¹³ A full analysis of work incentives in Britain and how they relate to the redistribution of income can be found in S. Adam, M. Brewer and A. Shephard, *The Trade-Off between Work Incentives and Income Redistribution*, Policy Press, Bristol, forthcoming.

broadly unchanged from its current level under options 1 and 2; under options 3 and 4, the average EMTR rises from around 33% now to around 40%, a rise of between 6 and 7 percentage points.

We can also look at what happens to the overall distribution of EMTRs, to see, for example, how the number of people facing particularly high or low EMTRs is affected by the reforms. We do this by looking at the number of individuals whose EMTRs are in particular ranges (Table 3) or above particular thresholds (Table 4) before and after the reforms.

Table 3. Change in the distribution of effective marginal tax rates under the various flat tax options

<i>EMTR range</i>	<i>(Change in) number of individuals (thousands)</i>				
	<i>Current</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>	<i>Option 4</i>
0%	7,309	-9	-6	+1,124	+1,229
0.1% – 10%	421	-323	-323	-372	-406
10.1% – 20%	551	-398	-398	-270	-326
20.1% – 30%	3,814	+1,217	-1,005	-3,803	-3,811
30.1% – 40%	14,002	+2,010	+4,594	-8,867	-12,793
40.1% – 50%	3,080	-2,513	-2,850	+14,544	+18,492
50.1% – 60%	314	-313	-266	-128	-134
60.1% – 70%	2,122	-1,740	+151	-2,018	-2,020
70.1% – 80%	300	+2,028	+73	-290	-300
80.1% – 90%	394	-130	+7	+81	+71
90.1% – 100%	305	+152	+3	-5	-6
Over 100%	16	+20	+20	+4	+2

Notes: Effective marginal tax rates calculated by increasing income by 1p. Excludes families in which someone is aged 60 or over.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on updated data from the 2004–05 Family Resources Survey under the April 2006 tax and benefit system.

Table 4. Change in the cumulative distribution of effective marginal tax rates under the flat tax options

<i>EMTR range</i>	<i>(Change in) number of individuals (thousands)</i>				
	<i>Current</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>	<i>Option 4</i>
Total	32,628				
Over 0%	25,319	+10	+6	-1,124	-1,231
Over 10%	24,898	+333	+329	-752	-825
Over 20%	24,347	+731	+727	-482	-499
Over 30%	20,533	-486	+1,732	+3,321	+3,312
Over 40%	6,531	-2,496	-2,862	+12,188	+16,105
Over 50%	3,451	+17	-12	-2,356	-2,387
Over 60%	3,137	+330	+254	-2,228	-2,253
Over 70%	1,015	+2,070	+103	-210	-233
Over 80%	715	+42	+30	+80	+67
Over 90%	321	+172	+23	-1	-4
Over 100%	16	+20	+20	+4	+2

Notes and Source: See Table 3.

In the tables, the main effect of flattening income tax rates alone (option 1) is to increase the number of people facing EMTRs between 20% and 40% and reduce the number in the bands either side. This happens because higher-rate taxpayers see their EMTR fall from 41% to 25%, while starting-rate taxpayers not on means-tested benefits or tax credits typically see their EMTR rise from 21% (or 10% if some of their income is non-earned and therefore not subject to NICs) to 35%. Thus option 1, and specifically abolishing the higher rate of income tax, reduces the number of people facing marginal rates above 40% by around 2.5 million. There is also a significant increase in the number facing EMTRs greater than 70%. This is because the replacement of the basic rate of income tax by a slightly higher flat rate moves most basic-rate taxpayers who are also on the tax credit taper from a 70% to a 72% EMTR; this is a relatively small change, but happens to take a large number of people over the boundary from the 60.1–70% band to the 70.1–80% band.

Option 2 makes the least change to the distribution of EMTRs: since the flat tax rate is the same as the current basic rate, the only significant groups whose EMTRs change are higher-rate taxpayers, whose EMTRs fall from 41% to 33%, and starting-rate taxpayers, who see their EMTRs increase from 21% to 33%. This therefore increases the numbers with EMTRs greater than 30% but reduces the numbers with marginal rates greater than 40%.

Introducing universal tax credits shifts typical basic-rate taxpayers from a 33% to a 48% EMTR (46% if NICs are also flattened), but the abolition of the tax credit taper shifts those who are on the tax credit taper as well from a 70% to a 48% (or 46%) EMTR. Thus the number facing EMTRs above 60% falls by more than two-thirds; but the number facing EMTRs above 40% almost trebles (more than trebles if NICs are also flattened, since those earning above the UEL also face an EMTR above 40% in that case), so that most adults would face EMTRs above the 40% mark.

The overall effect of the flat tax systems with universal tax credits is to reduce the dispersion of marginal rates, as we would expect. However, even under option 4, EMTRs are far from being the same for everyone. One reason is that the existence of a tax-free allowance means that many people face zero EMTRs under all the systems we consider; indeed, under options 3 and 4, many more people are brought into that position, as the EMTR is reduced from 37% to 0% for non-working partners of working individuals if the family is currently on the tax credit taper (and not on means-tested benefits).

A second reason that EMTRs are not equal for everyone under option 4, and perhaps more of a cause for concern, is that there remain many working-age people facing withdrawal of means-tested benefits, which are not incorporated into any of our flat tax options and can impose very high withdrawal rates. Indeed, one perverse feature of all our flat tax options is that they all increase the number of people with EMTRs above 80%. The main reason for this is that some low-to-middle-income families lose out from the reforms and are thereby

floated onto eligibility for means-tested benefits (which are assessed on income net of income tax, NICs and tax credits). The number of additional people moved onto means-tested benefits in this way is relatively small; however, the reforms analysed here certainly do not reduce the numbers in this invidious position.

6. Conclusion

This Briefing Note has analysed the effects of four possible flat tax systems for the UK: one that flattens the rate structure of income tax only, one that also flattens National Insurance contributions, and two that flatten the combined rate structure of income tax and tax credits (with and without flattening National Insurance contributions as well). Applied only to the working-age population, the reforms are designed to be revenue neutral under the strong assumption that people do not change their behaviour in response to the reforms.

Distributionally, the simple flattening of income tax rates alone that we model redistributes towards those with high incomes, while if tax credits are integrated into the flat tax system then the principal effect is to redistribute from high-income families without children to low-to-middle-income families with children. In either case, flattening National Insurance contribution rates as well tilts the reform in favour of lower earners.

In terms of work incentives, the results are mixed. The flat tax reforms that do not incorporate tax credits do not substantially change the overall average effective marginal tax rate. They strengthen work incentives for higher-rate taxpayers and weaken them for starting-rate taxpayers, thereby reducing the dispersion of effective marginal tax rates among those not facing especially high rates to start with. Basic-rate taxpayers see a slight rise in their marginal rate, unless National Insurance contributions are also flattened (in which case their marginal rate is unchanged); this rise also means that marginal rates rise for many of those who already have particularly weak work incentives because they also face tax credit withdrawal. Integrating tax credits into a flat tax, by contrast, reduces the numbers facing effective marginal tax rates above 60% by over 2 million; but the cost of this is that it pushes over 12 million more people (16 million if National Insurance contributions are also flattened) above the 40% mark, and significantly weakens work incentives on average.

This Briefing Note has analysed only four of an endless variety of possible flat taxes. Perhaps its main contribution is to show the extent of variation in effects even among these four; other possible flat taxes would have still different effects.