

Redistribution and work incentives in an independent Scotland: opportunities and constraints

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David Eiser

Research Fellow, Economics Division
University of Stirling

David Bell

Professor of Economics
University of Stirling

David Comerford

Research Fellow, Economics Division
University of Stirling

Abstract

Through independence the Scottish Government aims to reverse many of the UK Government's welfare reforms, and at the same time, reform the welfare system so that it improves the transition into work. There is an apparent trade-off between the desire to increase redistribution and improve work incentives. However, because different groups respond differently to particular incentives inherent in the tax and benefit system, the way in which these incentives are structured has important implications for labour market participation and inequality. An effective tax system minimises work disincentives where they matter most – for low earners, families with children, and those at the beginning and end of their working lives. This paper discusses how the balance between redistribution and work incentives is changing under current UK Government welfare reforms, and how an independent Scottish Government might balance this trade-off differently.

1. Introduction

'If society cares about inequality and poverty, there will always be some willingness to sacrifice a part of national income in order to achieve distributional objectives. The fundamental design issue is to minimize such losses while raising sufficient revenue to finance desired public services and satisfy concerns over inequality and poverty'. Mirlees (2011)

Earnings taxation – the system of personal taxes and benefits – is the principal way in which the UK tax system as a whole achieves progressivity and redistributes from rich to poor¹. There is a fundamental trade-off however between redistribution and work incentives. The 'effective tax rate', the total amount of earnings taken in tax and withdrawn benefits when somebody enters work (or decides to work more) can influence the choices that individuals make regarding whether to work, but can also affect the choices over careers, education, and training and over whether to be self-employed or an employee.

One of the main criticisms of the UK's system of earnings taxation has traditionally been that a complex array of benefits can be withdrawn simultaneously from individuals as they enter work (or choose to work more). For example, someone for whom an extra £1 of earnings is not only subject to basic-rate income tax and standard-rate NICs, but also reduces their entitlements to tax credits, Housing Benefit, and Council Tax Benefit, faces an effective marginal tax rate of over 96% (i.e. they keep just 4p of the additional pound earned). Although high effective tax rates in the UK welfare system are often criticised, they are to an extent an inevitable consequence of a means-tested benefit system. As Blundell (2013) points out, 'any system that redistributes income by targeting benefits towards families with low earnings and high needs will induce high effective tax rates as a natural by-product'.

How this trade-off is managed matters because it affects the employment and inequality outcomes of welfare policy. In its White Paper, the Scottish Government recognises that 'Well rewarded and sustained employment is the best route out of poverty and the best way to tackle inequality'. It aims to simplify the complexity inherent in the UK's system of overlapping benefits for working age people in order to improve the transition into work. But at the same time it argues that the welfare reform agenda being pursued by the Westminster Government is unfair and regressive because it commits those who cannot work to poverty and financial uncertainty.

Understanding how the structure of earnings taxation affects work effort and hence labour supply for different groups is critical for estimating the likely impacts of welfare reform. Empirical evidence suggests that workers respond very differently to particular work incentives at different stages of the lifecycle. The theory of optimal taxation says that, even for a given level of redistribution, economic gains can be delivered by minimising work disincentives where they matter most. In other words, more redistribution from rich to poor can take place by increasing taxes on less responsive groups 'because the damage that redistribution does to work incentives is less important for them than for more responsive groups' (Mirlees et al. 2011).

As an example, one group that is very responsive to financial work incentives are low-income families with children. Brewer et al. (2012) argue that the increase in in-work contingent support for low-income families with children through the tax credit system has increased employment within

¹ The UK makes very little use of wealth taxes for redistributive purposes.

these groups, reducing inequality in both gross and net income. Because time out of the labour market can have permanent effects on future earnings, encouraging women to work when children are present can reduce lifetime inequalities as well as cross-sectional ones.

This paper considers the trade-offs between redistribution and work incentives through the lens of optimal tax theory. It considers how this trade-off is changing under the reforms of the current UK Government, and the extent to which an independent Scottish Government would have scope to balance this trade-off differently. The paper focusses on work incentives and labour supply responses for those on low-incomes, (although the effective tax rate can also of course influence labour supply among higher earners too). Of course, labour market participation depends on labour demand as well. But the design of benefit policy plays a key role in labour supply. Blundell (2012) for example shows how changes to the design of Working Tax Credits influenced both employment rates (the extensive margin) and hours worked (the intensive margin) among females.

The paper is structured as follows. The next section describes how the financial work incentives inherent in the system of earnings taxation can be measured, and some of the trade-offs implicit in design of the welfare system. Section 3 reviews existing evidence on how different groups of individuals respond to these financial incentives. Section 4 describes ongoing reforms to the UK welfare system, and considers how these are likely to be influencing work incentives. Section 5 provides an overview of the vision for welfare reform in an independent Scotland. Section 6 considers the ways in which these reforms would influence work incentives for different groups. Section 7 concludes.

2. Measuring the financial incentive to work

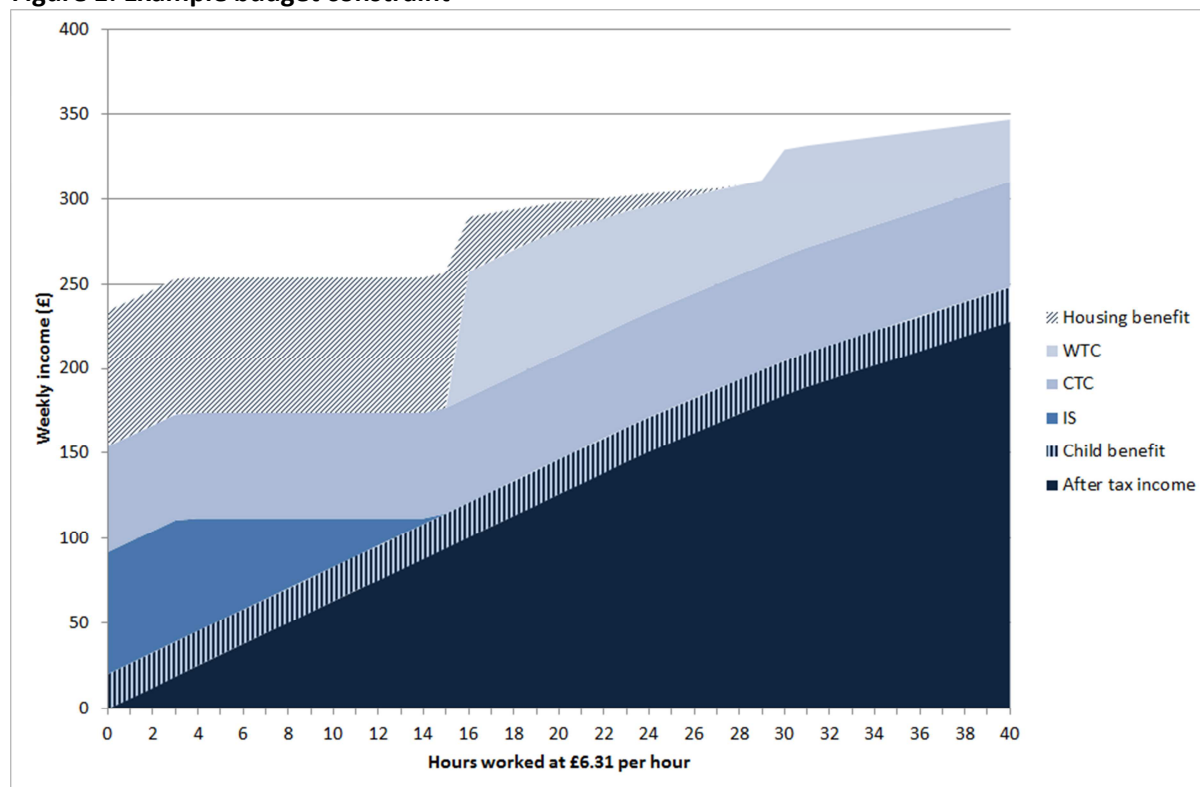
An important distinction in analysing labour-supply responses is between the extensive (whether to work) and intensive (how much to work) margins of labour-supply. Financial work incentives depend on the relationship between hours of work and net income. Financial work incentives thus depend on the gross wage rate an individual can command, and the taxes and benefits payable to them at different levels of earnings.

Figure 1 shows an example budget constraint for a lone-parent who can choose how many hours to work at the minimum wage of £6.31 per hour (in 2012/13)². It shows the number of benefits involved, and how the way that these are withdrawn affects work incentives. At low levels of hours worked, the budget constraint is completely flat (apart from a small earnings disregard of £20) because Income Support is withdrawn pound for pound with any increase in earnings (this would also be the case if this example lone parent qualified for JSA rather than IS, which would be the case if their child was aged 5 or over). There is a 'jump' at 16 hours when the individual becomes eligible for Working Tax Credits, but this is mitigated by the fact that income from tax credits is counted as income against which Housing Benefit can be withdrawn. Above 16 hours, the individual faces tax credits and housing benefit being withdrawn simultaneously (NI contributions for this individual become payable at 24 hours). There is a further jump in the budget constraint at 30-hours because of the incentives structure of working tax credit, and the individual becomes liable for income tax

² This analysis is partial equilibrium in the sense that it assumes work is available in the quantities and qualities that individuals desire: in other words the demand side of the labour market always adjusts to accommodate supply.

after this point. If the individual increased her working hours above 40, she would see her WTC and then CTC withdrawn at a rate of 41p reduction for every extra pound earned. (Note that we have abstracted from the issue of council tax benefit which, if included, would also be withdrawn at the same time as housing benefit.)

Figure 1: Example budget constraint



Notes: author calculations based on information from DWP and HMRC (various sources) and Browne and Hood (2012). Budget constraint is based on a hypothetical lone parent with one child aged under 5, no childcare costs, no savings or income from unearned income, no disabilities, and with housing costs of £80 per week in a local authority property with the appropriate number of bedrooms.

Summary measures of the financial incentives implicit in the tax and benefit system distinguish between the incentive to be in work at all (i.e. the extensive margin) and the incentive to increase work effort (i.e. the intensive margin). The two key measures of the extensive margin are the replacement rate (RR), an individual's income if they did *not* work as a percentage of their *in-work* income, and the participation tax rate (PTR), the proportion of total earnings taken in tax and withdrawn benefits. The incentive for those in work to increase their earnings is measured by the effective marginal tax rate (EMTR), the proportion of a small increase in earnings taken in tax and withdrawn benefits. In all cases, higher numbers mean weaker work incentives.

$$RR = \frac{\text{Net income out of work}}{\text{Net income in work}}$$

$$PTR = 1 - \frac{\text{Net income in work} - \text{net income out of work}}{\text{Gross earnings}}$$

The fact that the PTR is based on the difference between in-work and out-of-work income, while the RR is based on the ratio between them gives them different properties (Adam and Browne, 2013). Arguably, the RR is a better measure of the financial incentive to be in work, while the PTR is a better measure of how far the tax and benefit system weakens the financial incentive to be in work.

There is clearly a critical trade-off between the desire for redistribution on the one hand, and the intention to maintain sufficient work incentives on the other. High effective tax rates in the UK tax system reflect the strong redistribution to low-income families with children. Indeed, the more accurately the tax system targets low income, the higher the EMTR on low earnings is likely to be (Blundell 2012).

There are several other trade-offs inherent in the tax and benefit system. Mirlees (2011) lists these as:

- **Incentives to be in work vs. for those in work to earn more:** reforms to reduce the PTRs faced by low-income workers by means testing less aggressively imply that means tests are extended further up the income distribution. This will reduce the incentives of those in work to increase their earnings.
- **Incentives for 1st vs. 2nd earners:** Entitlement to means-tested support is generally assessed on the basis of a couple's combined income. Increasing support for low-earning families increases the incentive to have a first earner in work. But if that support is withdrawn against additional earnings, it can reduce the incentive for families to have a second earner in work. In a system of joint assessment, policies that reduce PTRs for first earners will therefore increase PTRs for many second earners. This is particularly important given the evidence that employment responses are especially large among second earners.
- **Very weak incentives for a few vs. quite weak incentives for many:** Reducing the rate at which tax credits are withdrawn means that those facing the highest EMTRs would see them reduced. But the price for this is that the withdrawal is spread over a wider range of income and high (albeit not quite as high) EMTRs affect many more people. On the one hand, spreading high EMTRs more evenly is valuable: the distortion imposed by taxes rises more than proportionately to their rate, so having two people face 50% tax rates is generally preferable to having one person taxed at 30% and another at 70%. On the other hand, as tax credit entitlement and means-testing are extended, they start to affect income ranges that are more densely populated. This means that the cost to government rises and that many more people face higher EMTRs than lower EMTRs.
- **Theoretical optimality vs. practical considerations:** major extension of means-testing has practical downsides quite apart from its effect on EMTRs, including extra administration for government, hassle and stigma for claimants, and widespread non-take-up of entitlements. 'The way in which any chosen rate schedule is delivered really matters'. A major recommendation of the Mirlees Review, indeed arguably the main recommendation, was to achieve significant simplification and integration of benefit system by reforming the 'current structure of multiple benefits and overlapping means tests which leaves some people facing effective marginal tax rates of over 90%. It is complex, inequitable and inefficient.'

As Mirlees (2011) summarizes, 'if the diagnosis is that net incomes in low-paid work are too low relative to net incomes out of work, then the treatment is to increase in-work incomes for the low-

paid. But this treatment has undesirable side effects, the principal one being the extension of means-testing to many more people, weakening incentives for low earners to increase their incomes. To minimize the extension of means-testing, reductions in effective tax rates could be focused more precisely where they are needed: rather than means-testing less aggressively overall, we could reduce effective tax rates specifically for those who are currently subject to several taxes and means tests simultaneously, which is where the biggest problem lies.’ This, in a nutshell, is the rationale for Universal Credit, which we discuss further below.

3. Work incentives, labour-supply and optimal taxation

The previous section considered how we can measure the work incentives implicit in the tax and benefit system. But how do these incentives (and changes to them) influence how individuals vary their labour supply? The literature identifies wide differences in the extensive and intensive responses of different types of worker; knowing where the largest labour supply responses to incentives are likely to be found is a key ingredient in achieving good earnings taxation design.

There is a wide literature that attempts to measure labour-supply responses to tax reform. Blundell (2012) distinguishes between several types of empirical approaches: the experimental approach using randomised control trials (RCTs), although this approach is rarely used in practice; the quasi-experimental approach using historic reforms (typically comparing ex-post differences in outcomes between a treatment and non-treatment group, using for example difference-in-difference econometric specifications); and the structural approach based on a formal optimisation model of individual and family choices. The structural modelling approach allows simulation of policy reforms, but requires specification of a choice problem and a budget constraint, sometimes with relatively little empirical foundation. This difficulty can be particularly acute for family (as opposed to individual) labour supply models, as these require assumptions regarding the modelling of joint hours and employment choices.

Meghir and Phillips (2009) provide a detailed overview of empirical research relating labour-market supply to the tax and benefit system. They discuss how responsiveness varies depending on whether labour supply is measured by hours worked, taxable income or the decision to work at all. Key findings from this work are that:

- Especially for low earners, responses are larger at the extensive margin—employment—than at the intensive margin—hours of work (i.e. the decision whether or not to work is quite sensitive to benefits and taxation rates, whereas hours of work do not respond particularly strongly to the financial incentives created by tax changes). This can imply low, even negative, optimal participation tax rates for low earners; this is the rationale for in-work earning subsidy benefits such as the Working Tax Credit.
- Second earners in a household tend to be much more responsive than the main earner (low earners face relatively low PTRs on average, but high PTRs if their partners are also low earners since the tax credits the family receives with one person in low-paid work are withdrawn when a second person moves into work)

- Hours of work do not respond particularly strongly to the financial incentives created by tax changes for men, but they are more responsive for married women and lone mothers.
- The decision whether or not to work is quite sensitive to taxes and benefits for women and mothers in particular, but more so for women with school-age children than for those with pre-school aged children.
- Among men, the decision of whether or not to work is more responsive among those with low education than those with high levels of education.

As well as these broad differences by household type, Mirlees (2011) and Blundell (2012) also highlight how responses to incentives vary by age of household members – it is at the early and later periods in working life where the intensive and extensive margin choices become important, reflecting the school-work and early retirement margins (reflected in Figures 2 and 3).

Figure 2 shows employment rates by age for males and females in the UK and Scotland, whilst Figure 3 shows hours worked by age. Although there is more noise in the Scottish data, employment rates by age and hours worked by age are essentially no different in Scotland relative to the UK, suggesting that there is no difference between the two countries in how the extensive or intensive margins respond to the incentives inherent in the tax-benefit system. (Needless to say, the variation in the intensive and extensive labour supply rates by age cannot all be attributed to tax and benefit policy, but it is likely to play a role).

Figure 2: Employment rates by age 2013/14

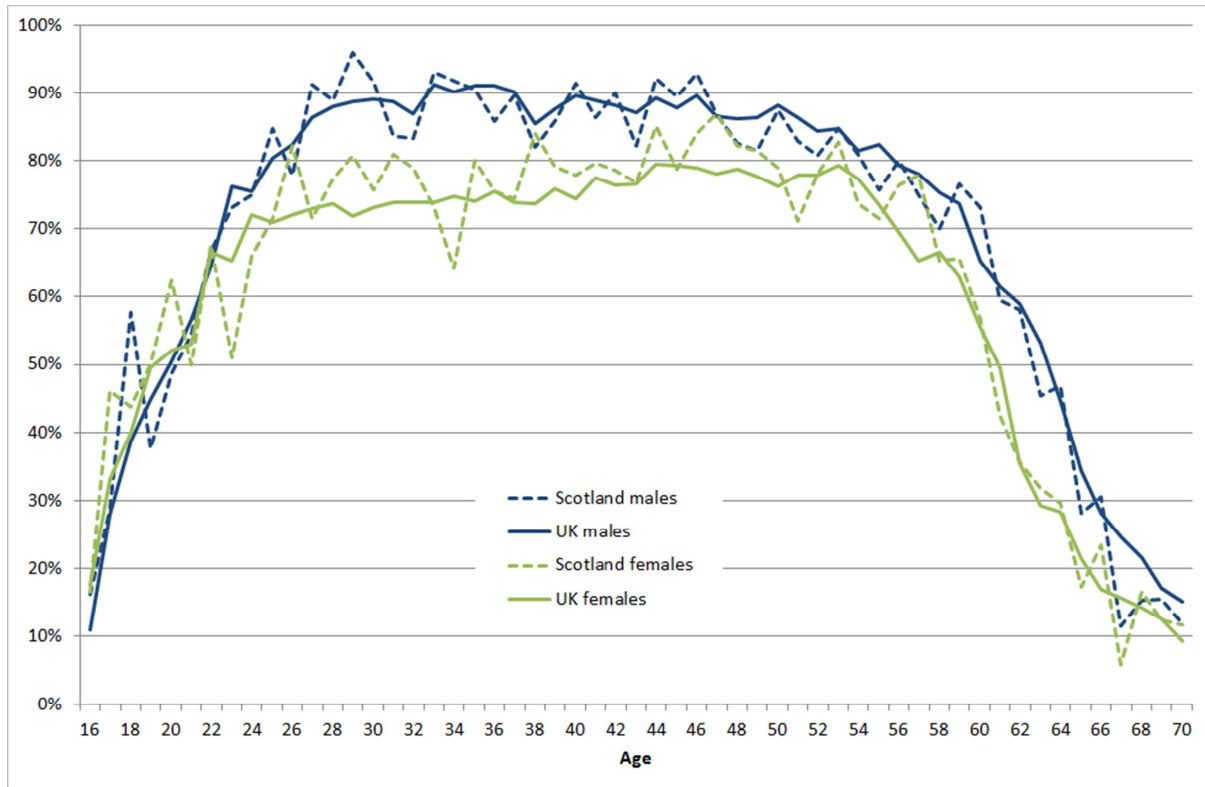
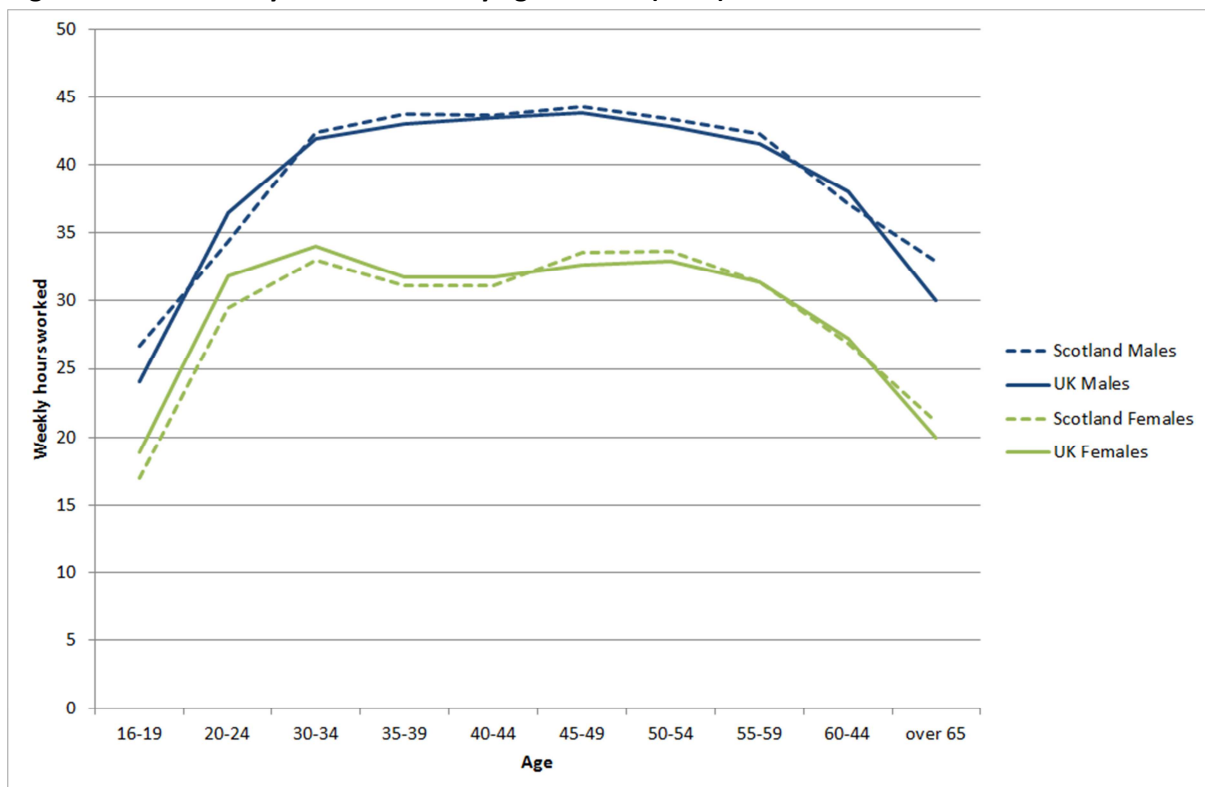


Figure 3: Usual weekly hours worked by age and sex (2014)



The observation that labour supply responds differently at different stages of the lifecycle has implications for optimal tax design. Mirlees et al (2011) highlight that tax reforms can be implemented that are neither progressive nor regressive overall, but redistribute across the lifecycle

so that people face stronger incentives at the times they are most responsive to them. Thus the Mirlees approach takes the level of redistribution / progressivity in the system as given (as this is a normative decision), and considers how to design the tax schedule to be as efficient as possible. The optimal tax approach requires that, for a schedule of tax rates to be 'optimal', there should be no change in tax rates that can make society better off given a fixed amount of tax revenue to be raised.

The conclusions of the Mirlees Review were that: 'The current UK tax and benefit system is unnecessarily complicated and induces too many people not to work or to work too little. By creating a simpler and more rational system, minimising disincentives where they matter most, the reforms we propose have the potential to deliver major economic gains.' (Mirlees et al. 2011).

For example, the Mirlees Review recommends that work incentives should be strengthened for families whose child is of school age, reflecting the finding that mothers of older children are more responsive to the incentives of the tax and benefit system than are mothers of younger children. An example reform could be to make CTC more generous for families with a youngest child aged under 5, and less generous (with less means testing) for families with a youngest child aged 5 or over. Such a reform could raise workforce participation by 0.2% (Mirlees et al. 2011). The issue of childcare and work incentives is discussed further below.

Mirlees et al (2011) also recommend that work incentives be strengthened for those in later working life, aged 55-70. This group is highly responsive to incentives. As an example policy, the age at which NICs stop being payable and the higher tax-free personal allowance is available could be reduced to 55, estimated to increase employment by 0.6%.

4. Work incentives in the UK's evolving benefit system

The UK's approach to social security consists of a series of means-tested benefits that are largely non-contributory (unrelated to previous earnings) and relatively modest. The system for working age adults consists of two broad types of benefits:

- **A set of income-replacement or income top-up benefits.** These include Jobseekers Allowance (JSA) for unemployed people, Employment and Support Allowance (ESA) for those too ill or disabled to work at present, Income Support (IS) for those who are not expected to look for work; and Working Tax Credits (WTC) for those who are in work but have a low family income. These benefits differ in terms of who can claim and the conditions for claiming; in the vast majority of cases, claimants can only claim one of these benefits at a time.
- **A set of extra cost benefits** which provide additional income to households that are thought to have higher needs. These include Child Tax Credit (CTC); Housing Benefit (HB); and Council Tax Benefit (CTB). These benefits are less harshly means tested than the income replacement benefits, and can be claimed both by those in and not in work.

The UK's system of means tested social security is criticised for several reasons (DWP, 2010; Brewer et al. 2012). The separate, mutually exclusive income-replacement benefits – that are administered by different agencies and subject to different rules on the classification of income – result in confusion for claimants, administrative costs and delays. Having separate benefits for those in and

out of work acts as a barrier to those trying to move from welfare to work, and helps create a culture of stigma between those claiming in-work and out of work benefits. The various means tested benefits can overlap and interact in complex ways, and they are sometimes withdrawn simultaneously as claimants move into work (or increase their earnings); this means that the gains to work are not always transparent.

The UK Coalition Government is introducing a series of major changes to the benefits system. These changes are driven by two objectives: first, to reduce overall welfare spending as part of wider deficit reduction plans (with an aim to achieve net savings of £21bn by the end of this Parliament); and second, to simplify the existing welfare system and improve the incentives for people on benefits to start paid work or increase their hours.

The major structural reform in this respect is the introduction of Universal Credit (UC). UC will replace six means tested benefits and tax credits (income Support, income-based Jobseeker's Allowance (JSA), income-based Employment and Support Allowance (ESA), Housing Benefit, Working Tax Credit and Child Tax Credit), tied to some extensions to the conditionality attached to these benefits (e.g. an increase in the level of earnings per week beyond which JSA claimants are not required to increase hours or earnings). UC aims to make the financial gains to work more transparent, both by making it easier for claimants to understand their entitlements now and should their circumstances change, and by ensuring that claimants are not subject to extremely high effective tax rates as separate benefits are withdrawn simultaneously (UC also removes the 'jumps' in benefit entitlement at 16 and 30 hours shown in Figure 1, instead providing a more graduated incentive structure). Introduction of UC is thus the major policy response to the Mirlees finding that the UK benefit system is overly complex and subjects some claimants to perniciously high rates of benefit withdrawal.

The Coalition Government's deficit reduction package also involved benefit cuts and increases in conditionality. One of the major savings in aggregate arises from the decision to uprate most working age benefits by CPI rather than RPI (saving £10bn per year by end of Parliament), and furthermore by increasing many benefits by 1% in nominal terms (i.e. by less than CPI inflation) between 2013-15, saving a further £2.3bn per year, and even freezing the level of some benefit payments in nominal terms (child benefit and some elements of tax credit). Similarly, the local housing allowance that determines Housing Benefit rates is being uprated by inflation rather than an index of local housing rents. Other policies include a cap on the maximum weekly benefit that a family can receive, a cut in funding for council tax benefit, and reductions in housing benefit for those deemed to be 'under-occupying' their properties. Some elements of tax credits are also being means tested more aggressively.

Reforms to increase the conditionality of benefits include moving lone parents with a child aged 5-10 from IS to JSA, continued roll-out of Work Capability Assessments for ESA claimants (under a process started by the previous government), and the gradual replacement, from April 2013, of Disability Living Allowance (DLA) by the Personal Independence Payment (PIP) (which is expected to reduce eligibility by 20%), and increasing the hours requirement for couples with children in the WTC.

Adam and Browne (2013) use micro-simulation techniques to investigate whether financial work incentives in the UK will be stronger in 2015-16 than they were in 2010-11. They show that there is a range of overlapping factors that are influencing work incentives over this period in different ways.

The fact that earnings have tended to increase more slowly than rates and thresholds in the tax and benefit system has somewhat weakened all three measures of work incentives, on average. In terms of tax reforms, increases in NICs and VAT have tended to weaken incentives, although the rise in the personal allowance and reduction in higher rate threshold has improved work incentives for low earners and weakened them for high earners. The effect of benefit changes is also mixed: cuts to benefits such as HB tend to strengthen work incentives; but cuts to WTC weaken the incentive to have someone in-work, whilst simultaneously strengthening the incentive to work more if working. Some changes, such as the increased aggressiveness of means testing of WTC can have quite different effects on different households.

The impact of UC on work incentives is complex and varies significantly by family type. In general, UC strengthens the work incentives of those who have the weakest incentives under the current system. The number facing a PTR over 70% is reduced by half, and the number facing EMTRs over 85% is reduced by 90%. The cost of this is that the number of people facing more 'moderate' disincentives increases. UC generally strengthens the incentives for the main earner in a family who works part-time or who has low-earnings, but weakens incentives for second earners. This is due to the way in which earnings disregards and taper rates interact (Brewer et al. 2012).

Overall, the tax and benefit reforms strengthen average incentives for individuals to be in work. On average, the RR is reduced by 3.4ppts including UC, and the mean PTR is reduced by 2.5ppts. These reductions more than offset the impact of falling real earnings. But the averages conceal far bigger changes at the individual level: for example, 30% of working-age adults see their PTR change by more than 5ppts, 17% by more than 10ppts, and 7% by more than 20 ppts as a result of the benefit reforms. The relatively modest averages reflect strengthening of incentives for some being offset by weakening for others. There is similarly large variation in changes to EMTRs.

Of course, there have also been major changes to non-financial work incentives. The strengthening of work-search requirements under the Work Programme, as well as for some current claimants of IS, ESA and DLA, will all potentially affect the non-financial 'incentives' to work, although the quantification of these effects is more difficult. Furthermore, the provision of other public services, such as childcare, can also influence the incentive to work, as we discuss further below.

5. Vision for welfare reform in an independent Scotland

The vision for welfare reform in an independent Scotland is set out in the Scottish Government's White Paper on independence (Scottish Government, 2013), and the report of the Expert Working Group on Welfare (2014).

The Expert Working Group proposes that the purpose of an independent Scotland's social security system is to 'provide a safety net through which individuals cannot fall, insurance against life events, and to maximise the life chances of every individual'. The three key principles should be fairness, personal, and simple, but there is a recognition that these three principles are held in tension, so that improvements in one often conflict with another. The benefit system should enable people who can work to move into employment, but also that people who lose their job, or who cannot work, do not face extreme financial uncertainty. Benefits should work hand-in-hand with programmes designed to help people find work, and aligned with public services such as health, housing and

social care. There should be a focused on personalised intervention and tailored support, combined with integration of skills and employability services.

Both the White Paper and the Expert Working Group stress the importance of employment as a key part of the approach to addressing poverty and inequality. The White Paper argues that ‘Well rewarded and sustained employment is the best route out of poverty and the best way to tackle inequality, whilst the Expert Working Group state: ‘We firmly believe that work should be the best route out of poverty for anyone who can realistically be expected to work’. In order to ensure that there is a ‘proper reward for work’, both documents stress the importance of promoting a living wage, either through statute or through employer incentives.

However, both documents stress dissatisfaction with many of the UK Coalition Government’s ‘regressive’ welfare reforms. Both documents commit to re-establishing the link between benefits and the cost of living. There is a commitment to reverse many of the less popular Westminster policies: abolition of the bedroom tax and the welfare cap for example. Concern is expressed over the increasing use of conditionality and sanctions, both in terms of the fact that evidence for success is mixed (there may be a tendency to push people into inappropriate jobs which are not sustained), and the fact that these are seen as disrespectful to and unfair on many claimants. Thus a major reform of conditionality and sanctions (focussing on ‘positive conditionality’) is proposed. Carer’s Allowance would be raised to the level of JSA, together with improved work incentives for carer’s by raising the earnings limit before which benefits are withdrawn.

Both papers recognise that the welfare system generally is too remote, complex and impersonal. Although the White Paper promises to halt the roll-out of UC, the Expert Working Group recognises the need to integrate and simplify some benefits, and recommends the establishment of a Social Security Allowance (SSA). The SSA would be a unified benefit, bringing together those benefits that will be brought into UC with the exception of HB. The rationale for keeping HB out of the new SSA is to provide maximum flexibility to future Scottish Governments in terms of reforming the housing system as a whole, rather than in parts’.

Looking to the longer-term, the Expert Group on Welfare discusses two very-different visions for an independent Scotland’s welfare system. The first of these is a contribution-based system, linking benefits more explicitly to personal contributions and savings. The second is the idea of a citizens’ income, which would abandon means-testing and complexity completely.

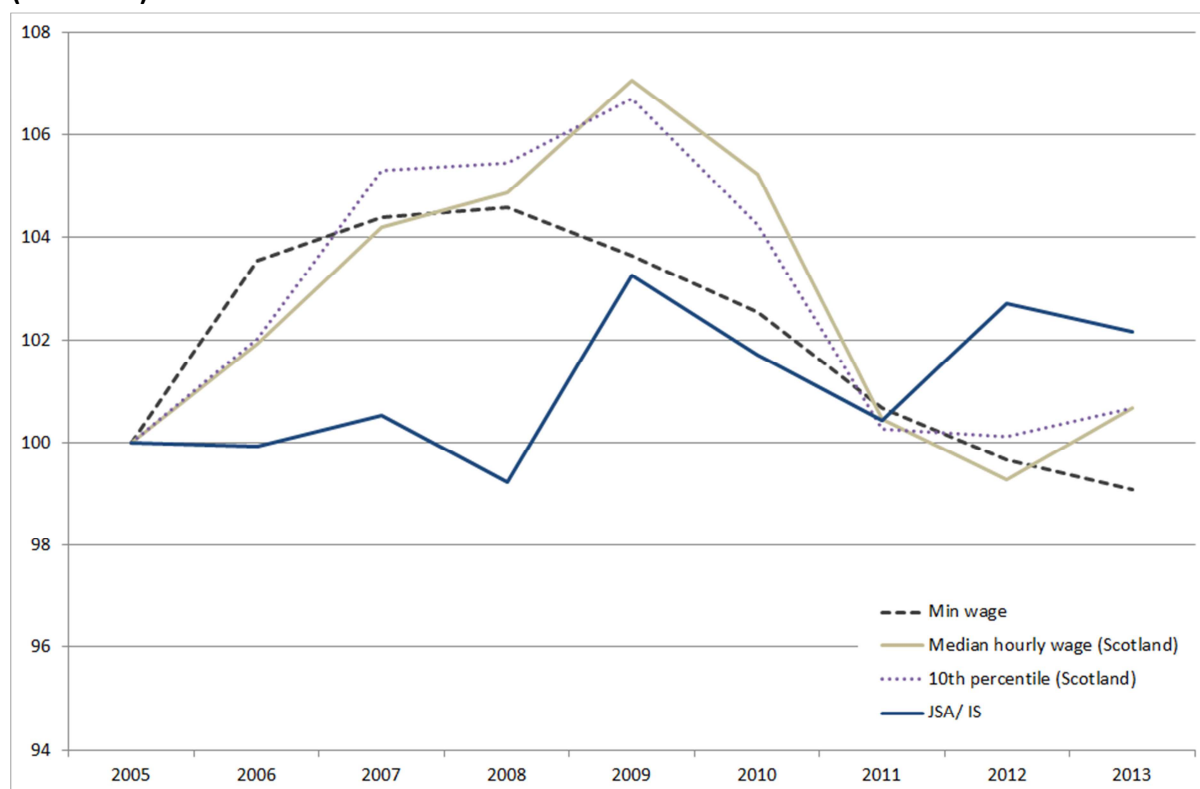
6. Work incentives under the Scottish proposals

The indicative policy proposals set-out by the Scottish Government and Expert Working Group on Welfare would, if implemented, influence work incentives for different groups in a variety of ways. In this section we consider how various policy proposals would affect work incentives for the lowest earners, focussing particularly on the incentive to work at all (the extensive margin).

Wages and benefit rates

The minimum wage has failed to keep pace with inflation since the recession; median wages and wages at the 10th percentile have also declined in real terms. In contrast, benefit rates have been uprated by CPI inflation (Figure 4).

Figure 4: Comparing National Minimum Wage, hourly wages, and benefit rates in real terms (2005=100)

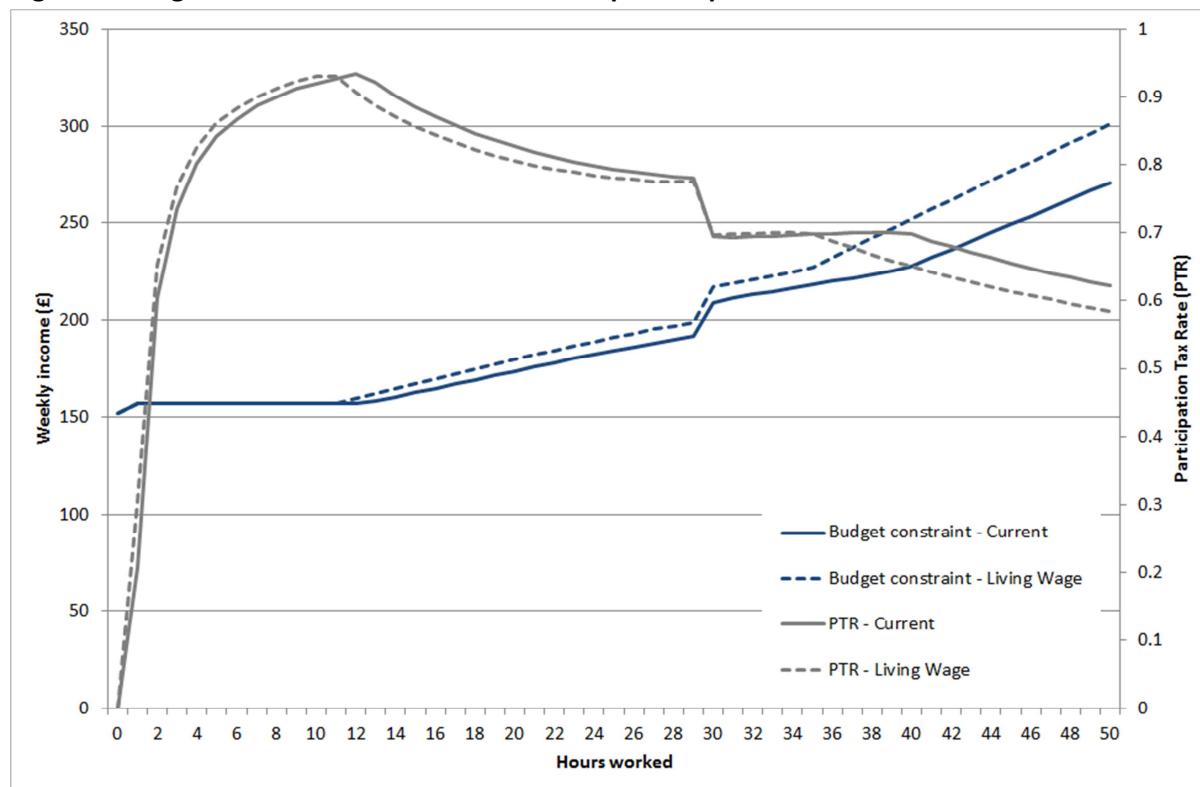


Notes: wages and benefit rates shown indexed to 2005, uprated by CPI inflation. Data on hourly wage at median and 10th percentile is for all workers in Scotland (Source: ASHE)

Other things being equal, the introduction of a Living Wage some 20% above the minimum wage would clearly improve work incentives for low-earners. Figure 5 shows how the budget constraint and PTR would change if the minimum wage was raised to the level of the Living Wage (i.e. from £6.31 to £7.20 in 2012/13)³. It shows how, if other tax and benefit rates and thresholds remain unchanged, the effect on incentives is not as straightforward as might be imagined. At low levels of hours worked, there is no difference in budget constraint following introduction of the living wage: this is because JSA for such individuals is withdrawn pound for pound against additional earnings. The PTR is thus actually higher under the living wage scenario at this stage. Once all JSA has been withdrawn, then housing benefit is withdrawn at 65% in both scenarios. At 30 hours, the individual becomes eligible for WTC, creating a jump in the budget constraint. However, because he has a higher income under the Living Wage scenario, the individual would receive fewer tax credits, temporarily equalising the PTRs under the two scenarios. After 34 hours, the Living Wage worker has had his tax credits tapered fully away, whereas the worker on £6.31 per hour is continuing to have his tax credits tapered away at 41p per additional pound. This creates the divergence between PTRs at this point (a given increase in gross wage is associated with a larger proportionate increase in net wage for the Living Wage worker, as he is not having tax credits withdrawn). The point of this exposition is to demonstrate how wages interact with benefit entitlement in complex ways, and changes to one part of the system need to be considered in terms of implications for other parts.

³ The Replacement Rate can be simply inferred as the ratio of the net earnings out of work to the net earnings in work; it is effectively the inverse of the budget constraint.

Figure 5: Budget constraint and PTRs for an example low-paid worker



To an extent, the benefits of a Living Wage from a work incentives perspective might be slightly undone by a more generous benefits uprating policy (although the 2.5% rise in benefit rates would be relatively small compared to the 20% rise in hourly pay that is implied by a move to a living wage). Relative to UK policy however, the Scottish Government’s proposals are not as generous as they might at first seem. The UK policy to uprate working age benefits by 1% is temporary until 2015/16, after which uprating will revert to CPI inflation; the Scottish Government’s White Paper says it would increase benefits by ‘inflation’, with the Expert Working Group on Welfare recommending that it is the CPI (rather than RPI) measure of inflation that should be used. Post 2016 therefore there would appear to be no difference between the two governments in their plans for uprating of working age benefits.

A new integrated benefit

The White Paper promises to halt the roll-out of Universal Credit, while the Expert Working Group on Welfare proposes the establishment of a Social Security Allowance (SSA). The SSA is motivated by similar aims as UC, namely to improve work incentives by simplifying the system of overlapping benefits into an integrated working age benefit that does not result in such high rates of withdrawal for some earners.

The extent to which the new SSA will improve work incentives will depend ultimately on how it is structured, i.e. how it balances the various trade-offs inherent in a system of means tested benefits, discussed above. The level of earnings disregards, how these differ for different family types or between first and second earners, the rate at which benefits are tapered, and whether this tapering is applied to gross or net incomes, how savings or unearned income is treated; these are all factors which will influence the effect on work incentives. UC for example aims to ensure that, above an earnings threshold, all families face a benefit taper rate of 65%. One implication is that work

incentives tend to be stronger under UC than the current system for a first earner (because the current system withdraws several benefits simultaneously), but weaker for a second earner (because under the current tax credit system, second earners face a METR of 41% compared to the 65% under UC; and partly because the taper under UC is applied to income once tax and NICs have been paid). Another implication is that, since the aim of UC is to have one withdrawal rate for all family types and all ranges of earnings, it follows that the only way in which the government can vary in-work incomes across different family types with a given level of earnings is through having different earnings disregards (otherwise, UC would extend far up the income distribution for those families entitled to large HB entitlements).

An important point to note is that, whilst some have criticised UC on the grounds that it does not include CTB, the proposed SSA would also keep HB separate as a locally administered benefit. It is thus unclear how effective the SSA might be at mitigating high effective tax rates for some claimants. Those facing the highest EMTRs are often in receipt of HB, as HB can be withdrawn at the same time as other benefits. Mirlees et al show that, on average, workers who rent accommodation have PTRs 13 percentage points higher, and EMTRs 11 percentage points higher, than those who own their homes outright. They note: 'By providing support for potentially large rental costs when income is very low, and then withdrawing this support sharply as income rises, Housing Benefit is responsible for some of the weakest work incentives in the UK tax and benefit system.' The way in which HB interacts with the new SSA would therefore be critical to the SSA's effectiveness in influencing work incentives.

Non-working age benefits

In addition to the system of working-age benefits, work incentives might also be influenced by non-working age benefits and in-kind benefits. In relation to the State Pension for example, the Scottish Government's White Paper proposes an increase to the Single Tier Start Rate, which would be set at £160 per week in Scotland, £1.10 higher than in the UK, and would be uprated each year by the so-called 'triple-lock' (the maximum of: (i) the increase in earnings; (ii) the increase in prices or (iii) 2.5 per cent, whichever is higher), whereas in the UK this will be uprated by earnings. The White Paper also proposes to retain the Savings Credit element of Pension Credit – an income-related benefit top-up for pensioners on low incomes who have saved some money for their retirement (which currently benefits 9,000 pensioners in Scotland to a maximum of £18 per week, and which the UK Government plans to abolish after 2016). Both of these policies are likely to worsen work incentives at the extensive margin for those who are of pensionable age. As we saw previously, individuals at this stage of their lifecycle are particularly responsive to financial work incentives.

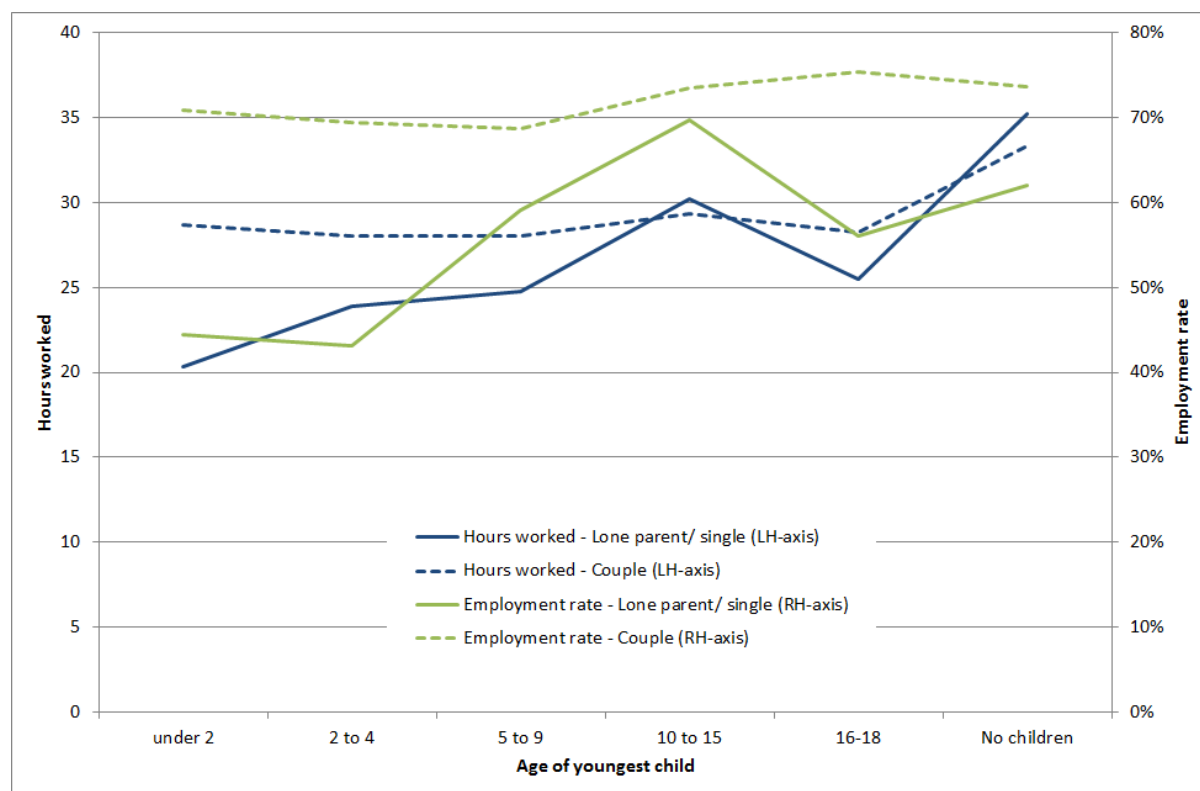
Wider public policy

Childcare costs effectively represent an additional tax on earnings. The Scottish Government's proposals to provide universal free childcare are motivated by a desire to improve the labour market participation of females in general, and mothers in particular (Scottish Government 2013).

Figure 6 explores the employment rate and hours worked (conditional on employment) by females in Scotland according to family type and age of youngest child. For females in a couple, having a child seems to effect the number of hours worked (intensive margin) more than the decision whether or not to work at all (extensive margin). For lone parent females, having a young child seems to affect

both the intensive and extensive labour supply, but lone parents with older children are more likely to be in employment than those with no children at all.

Figure 6: Employment rate and hours worked by age of youngest child and family type, Scotland 2014



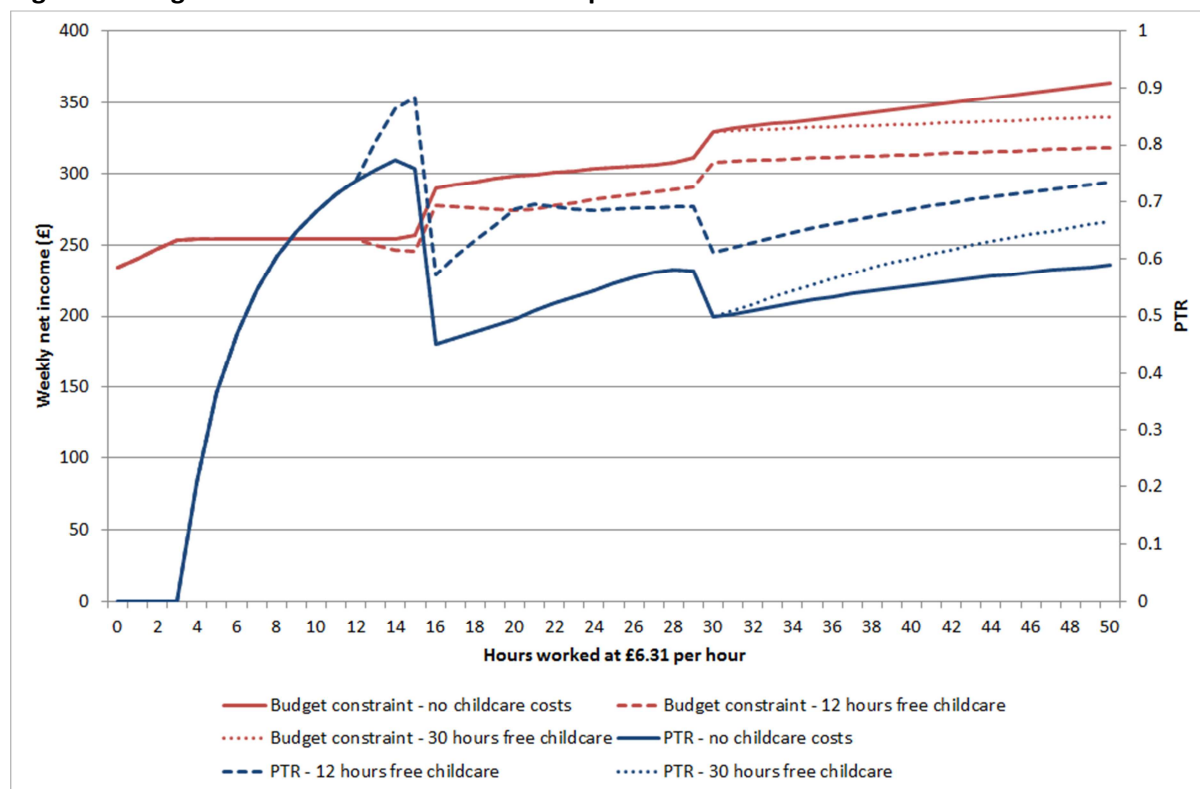
In Scotland, three and four year olds are currently entitled to 475 hours of preschool education per year, usually delivered as 12.5 hours per week over the school year (38 weeks). This entitlement is available in a variety of settings – nurseries, playgroups or children’s centres – and can be combined with the purchasing of additional hours by parents. In addition to this universal entitlement, the UK welfare system provides further means-tested childcare support. In particular, the childcare element of WTC is available to lone parents working 16 hours or more per week and to couples where both partners work for 16 hours or more per week. The childcare element provides 70% of eligible childcare expenditure of up to £175 per week for families with one child or £300 for families with two or more children (i.e. up to £122.50 or £210 per week respectively)⁴.

Figure 7 shows the budget constraint and PTRs facing the lone parent introduced in Figure 1, but this time deducts childcare costs (assumed to be £4 per hour) from net income for each additional hour worked. We assume that childcare is provided free up to 13 hours; beyond this, the lone parent has to purchase additional childcare, although this is subsidised through the childcare element of WTC. Intuitively, the budget constraint and PTR facing the lone parent with childcare costs is identical to the lone parent without childcare costs up to 13 hours; beyond this, childcare costs effectively act as an additional earnings tax, raising the PTR and RR (note also how the budget constraint falls for this

⁴ Some employers can offer employees childcare vouchers which effectively act as a tax break

lone parent at 13 hours; Income Support is withdrawn against additional earnings, but because she must pay for the full cost of an hours childcare if she works less than 16 hours, she faces an effective marginal tax rate of over 100%). Clearly, if the provision of universal childcare increased to 30 hours, the divergence in incentives between the parent facing childcare costs and the parent not facing childcare costs would not emerge until after 30 hours.

Figure 7: Budget constraint and PTRs for a lone parent with and without childcare costs



Radical reform: a citizen's income

There has been growing interest in the idea of a Citizen's Income (CI) generally, but particularly within the context of the Scottish Independence debate. The concept and its merits were discussed extensively in the Expert Working Group on Welfare report (although they did not recommend the introduction of a CI in the near future).

According to Mackay and Sullivan (2014), a Citizen's Income:

“is a model which replaces income support benefits (including the state pension but not housing benefit) with a single payment which is made to every citizen. This can be created in a cost-neutral way by converting all existing benefits and a proportion of the personal tax allowance into a citizens' Income. It would be universal and would bring many benefits.

This is a way of providing a safety net for all and provide a platform from which people will be incentivised to work in order to have extra income on top of the basic and to save money without penalty.”

Supporters of a CI argue that it would simplify the existing complex benefit structure, remove stigma associated with whether people are or are not in work, and provide clear incentives to work, whilst not diminishing the value to society of those who care for others or who are raising children.

The Scottish Green Party (2014) proposed an indicative model as to how a CI might work, and we use this to consider its likely work incentives for a low-paid worker. In the indicative model, the weekly CI is set at £50 for children; £100 for adults and £150 for pensioners. The first £5,000 of individual earnings are taxed at 30%, with earnings above this taxed at 50%. The Citizens Income replaces benefits including JSA, IS, Tax Credits, Child Benefit and the State Pension, although Housing Benefit and CTB would remain as per the current system. The CI would count as income against which eligibility for HB and CTB are assessed.

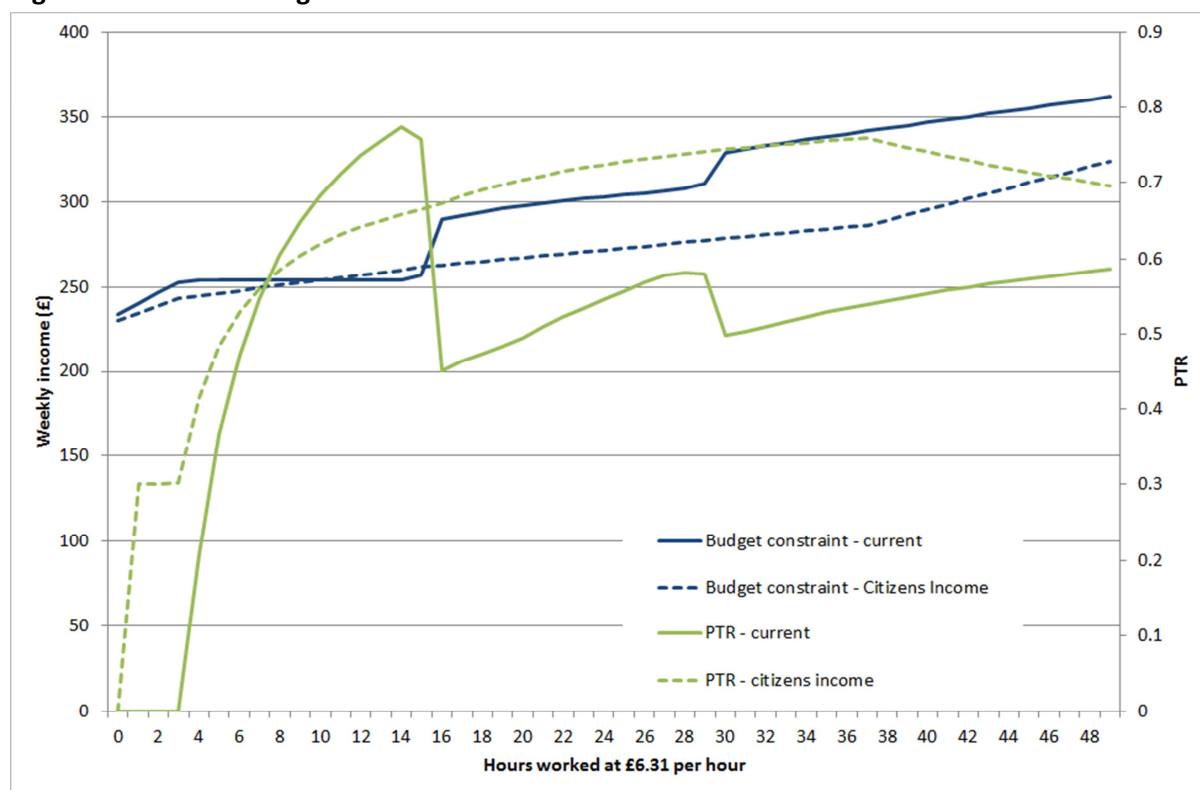
Figure 8 shows the budget constraint and PTRs facing the lone parent whose budget constraint was introduced in Figure 1, under both the current tax system and the indicative CI. The budget constraint under the current system has already been discussed; it gives rise to the 'stepped' PTR function as benefits are withdrawn and tax credits become eligible at 16 and 30 hours. The budget constraint under the CI is smoother but, in the absence of the hours incentives in WTC, the CI budget constraint for this worker is below the current system budget constraint above 16 hours of work. Implicitly, the RR is always higher under CI than the current system for this worker, other than if the worker chooses to work between 13 and 15 hours. Similarly, the PTR for this worker is higher under CI than the current system at all points other than between 6-15 hours.

Part of the explanation for the weaker work incentives under CI is that we assume the rules on HB remain as they are currently; thus with a tax rate of 30% and HB being withdrawn at 65%, this individual faces an METR of 76%, rising to 83% once the 50% tax rate kicks in. But the fact that the CI is universal effectively lowers the difference between in-work and out-of-work income. Even if we remove HB from the equation, the finding that, for this worker, the RR and PTR is higher under CI than the current system above 16 hours of work holds. The lower work incentive effects under CI hold at higher wage rates too, an artefact of the universal benefit and relatively high average tax rate.

It is not the intention of this paper to provide a detailed overview of work incentives under a CI for different types of worker. We can note however that, for the single person claiming JSA described in relation to Figure 5, work incentives at the extensive margin are stronger under CI to work less than 30 hours, but stronger under the current system to work 30 hours or more; this is essentially due to the fact that WTC under the current system are only eligible at 30 hours per week. What about for a second earner in a family with a child, and where the first earner works full-time on the minimum wage? Here, the incentives at the extensive margin are more similar between the current and CI schemes, because the second worker does not qualify for tax credits as she works longer hours (and she is not eligible for JSA, which therefore cannot be withdrawn). However, it may be the case that the second earner in this example family would face stronger incentives under the CI than under UC, given the higher withdrawal rate in UC.

The point of this discussion is not to argue that CI necessarily creates stronger or weaker incentives in general, but to highlight the myriad of ways in which combinations of allowances and rates can influence the incentives of different families facing different budget constraints.

Figure 8: Indicative budget constraint and PTRs for a Citizens Income



Conditionality and sanctions

Finally of course, it should be noted that non-financial factors can also influence work incentives, although these are much harder to analyse in a systematic way. The Scottish Government would hope that a more personalised and less aggressive form of conditionality would improve, rather than weaken, work incentives. Babcock et al (2012) argue that a behavioural economics perspective provides important insights into how effective sanctions may be in achieving their intended objectives. In the real world, complexity, procrastination and biased expectations may influence welfare recipients’ responses to incentives and sanctions.

7. Conclusions

In designing a system of earnings taxation, there is a difficult trade-off between redistribution and incentives. In the debate on Scottish independence, the Scottish Government has argued that there is a greater preference for higher levels of redistribution in Scotland, and has characterised the Westminster reforms as unfair and regressive. At the same time, the Scottish Government recognises the need to reform aspects of the tax and benefit system, in order that it supports those who can work into work.

These two objectives (increasing redistribution and improving work incentives) are not necessarily incompatible. The responsiveness of different population groups to incentives varies considerably and this fact can be exploited in welfare policy design, allowing a particular level of redistribution to be achieved at minimum cost.

The welfare reform policies that have been mooted in the context of independence are likely to have a range of labour supply effects. This paper does not aim to provide a definitive overview of these effects but to raise some of the relevant issues to consider. A key message is that the impact of any given labour market reform on work incentives will depend critically on how that reform interacts with the existing structure of the welfare system.

The rationale for simplification of the UK existing tax and benefit system is clear. The roll-out of Universal Credit has been beset by administrative problems and this, combined with the fact that it is being introduced alongside a period of welfare cuts has made it extremely unpopular with the public. Nonetheless, the Scottish Government implicitly recognises the need for some form of simplification of the benefits system. Although the details of its proposed 'Social Security Allowance' are not yet known, there may be danger that by retaining HB as a separate benefit, the advantages of an integrated benefit are not maximised. At the same time however, in developing a new simplified and integrated benefit, we need to ensure we don't erode work incentives where they are most powerful, e.g. for those at the beginning and end of their working lives, for lone parents, for those on low incomes, and for those with children of school age.

This paper has focussed on work incentives at the lower end of the income distribution, but a similar set of issues are present across all income groups. Amongst higher earners in particular, changes in incentives at the extensive margin might be manifested in decisions to emigrate, as well as to enter or leave the labour market. The elasticity of migration from an independent Scotland to rUK in response to a rise in effective tax rate could be argued to be relatively high, which may add to the difficulty in trading off incentives and redistribution in a system of earnings taxation (Comerford and Eiser, 2014).

Of course, many things other than the system of earnings taxation are likely to influence labour supply, not least the provision of wider public services – the debate around which public services should be means tested and which should be universal is particularly relevant here. But the structure of earnings taxation does play an important role. An independent Scotland would have opportunities to reform the welfare system, but in doing so it should consider how any reform will influence the incentives faced by different groups and their behavioural response.

References

- Adam, S. and Browne, J. (2013) *Do the government's welfare reforms make work pay?* Institute for Fiscal Studies, London.
- Babcock, L., Congdon, W. J., Katz, L. F., & Mullainathan, S. (2012). Notes on behavioral economics and labor market policy. *IZA Journal of Labor Policy*, 1(1), 1-14.
- Bell D. and Eiser D. (2013) *Inequality in Scotland: trends, drivers, and implications for the independence debate.*

- Blundell R. (2012) Tax policy reform: The role of empirical evidence, *Journal of the European Economic Association* **10**, 43-77.
- Brewer M., Browne J. and Jin W. (2012) Universal Credit: A Preliminary Analysis of Its Impact on Incomes and Work Incentives, *Fiscal Studies* **33**, 39-71.
- Brewer M., Saez E. and Shephard A. (2010) Means-testing and tax rates on earnings, in S. ADAM (Ed) *Dimensions of Tax Design*, pp. 90-173. Oxford University Press for the Institute for Fiscal Studies, Oxford.
- Browne, J. and Hood, A. (2012) *A survey of the UK benefits system*. Institute for Fiscal Studies, London.
- Comerford D. and Eiser D. (2014) Constitutional change and inequality in Scotland, *Oxford Review of Economic Policy* **30**, 346-373.
- Department for Work and Pensions (2010) *21st Century Welfare*. The Stationary Office, London.
- Expert Working Group on Welfare (2014) *Re-thinking Welfare: Fair, Personal and Simple*. Scottish Government, Edinburgh.
- Mackay, A. and Sullivan, W. (2014) *In Place of Anxiety: Social Security for the Common Weal*. Jimmy Reid Foundation, Glasgow.
- Meghir C. and Phillips D. (2010) Labour Supply and Taxes, in S. ADAM (Ed) *Dimensions of Tax Design*, pp. 202-274. Oxford University Press for Institute of Fiscal Studies, Oxford.
- J. Mirrlees. (2011) *Tax by design: The Mirrlees review*. Oxford University Press.
- Mirrlees J., Adam S., Besley T., Blundell R., Bond S., Chote R., Gammie M., Johnson P., Myles G. and Poterba J. (2011) The Mirrlees Review: Conclusions and Recommendations for Reform, *Fiscal Studies* **32**, 331-59.
- Schultz, T. P. (1990). Testing the neoclassical model of family labor supply and fertility. *Journal of Human Resources*, 599-634.
- Scottish Government (2013) *Scotland's Future: your guide to an independent Scotland*. Scottish Government, Edinburgh.
- Scottish Green Party (2014) *Citizen's Income*. Scottish Green Party, Edinburgh.