



## Special Article

*Distributional Impact of Tax, Welfare and Public  
Service Pay Policies: Budget 2015 and Budgets  
2009-2015*

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# Distributional Impact of Tax, Welfare and Public Service Pay Policies: Budget 2015 and Budgets 2009-2015

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## Abstract

This article analyses the impact of Budget 2015 on a nationally representative sample of households, taking into account the effects of the revised water charges. We also examine the overall impact of budgets since the start of the crisis. We measure the impact by comparing actual policy with a distributionally-neutral budget, indexed in line with expected wage growth. Compared with this benchmark, we find that at an aggregate level, household incomes net of tax, PRSI, USC and water charges were broadly unchanged by Budget 2015. However, there were differences across income groups. Net incomes for the 10 per cent of households with the lowest incomes are expected to be close to 1 per cent lower under 2015 policy than under an indexed 2014 policy. Net incomes for middle income groups will see little change, while there will be small percentage gains for high income households; just over half of one per cent for the top income group.

The overall impact of the set of budgets for 2009 to 2015, is quite different. These budgets led to substantial income losses at all income levels: we call these “policy induced losses” to distinguish them from income losses arising from other sources, e.g., unemployment, lower wages, and falling self-employment incomes. Over much of the income range, there are broadly similar percentage losses for each income group. But the greatest percentage losses are for the highest income group (about 15½ per cent) and the lowest income group (close to 13 per cent). For most other income groups, the income loss was in a narrow range, between 10 and 11 per cent.

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<sup>1</sup> We thank CSO for access to SILC data on which the SWITCH tax-benefit model is based. We are grateful to Sean Lyons and Anne Pentecost for estimates of the distributional impact of indirect taxes, as described in the Appendix. We thank an anonymous reader for comments; any remaining errors are the responsibility of the authors.

## Introduction

In this article we focus on the distributional impact of the main tax and welfare measures in Budget 2015. We also take account of the transition from full tax-financing of water services to a system with water charges, as per the revised system announced on 19 November. Budget 2015 is, of course, the latest instalment in a series of budgets designed to bring the government deficit and debt under control. We look therefore, not just at this latest instalment, but also at the cumulative impact of all budgets from October 2008 onwards.<sup>2</sup>

We use SWITCH, the ESRI tax-benefit model,<sup>3</sup> to ensure that we obtain a nationally representative picture based on SILC (Survey of Income and Living Conditions), the CSO's main survey of household income.<sup>4</sup> The areas covered by SWITCH, including income tax, social insurance, property tax, welfare benefits and public service remuneration,<sup>5</sup> account for the bulk of the impact of budgetary policy changes on households' cash incomes in recent years. This year the model is further extended to deal with water charges. There are, however, some taxes (e.g., indirect taxes, which affect the purchasing power of cash incomes) which cannot at present be integrated fully within that framework. Last year we used a number of experimental approaches (Callan *et al.*, 2013) to extend the coverage of the analysis to take account of indirect tax changes and some specific policy changes where direct evidence is not available within SILC.<sup>6</sup> We continue to use these approaches here in our analysis of budgetary impacts across the income distribution.

Most tax-benefit models internationally focus on income-related taxes, social insurance contributions and cash benefits. As well as capturing these standard elements, the SWITCH model goes beyond this to include a range of issues not commonly dealt with by international models. The model has been extended to include property tax, public service pay and water charges; and post-model adjustments help to deal also with indirect taxes, DIRT and some reliefs related to

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<sup>2</sup> Budget 2015 broke from the pattern of contractionary budgets; when the impact of water charges is taken into account, the overall net impact on household incomes is broadly neutral.

<sup>3</sup> See Callan *et al.* (2012) for a full description of the model.

<sup>4</sup> While selected examples can illustrate particular points, they are unable to provide a broadly representative picture of the impact of tax and welfare policy changes.

<sup>5</sup> Public sector pay cuts formed part of the austerity package, and are included in our analysis as their structure incorporated a distributional motivation, and their cash impact can be traced. Keane *et al.* (2014) present results which identify the separate impacts of tax increases, welfare cuts and public sector pay cuts.

<sup>6</sup> The methods referred to deal with the introduction of a carbon tax and a later increase in its rate; changes to VAT; increases in the Deposit Interest Retention Tax (DIRT); restrictions on pension tax reliefs for high income earners; restrictions on tax relief for medical insurance premia; and increases in Capital Gains Tax (CGT). For further details see Callan *et al.* (2013b).

pension contributions and health insurance. The breadth of this analysis compares favourably with most international models.

In this analysis we do not attempt to measure the impact of cuts in public services on households at different income levels. While this is an important area, it raises complex questions as to the appropriate concepts and measures to use, as pointed out by O’Dea and Preston (2012) and by Callan and Keane (2009). Analysis of the impact of changes in public services is at a much less advanced stage internationally. In recent years the UK Treasury (HM Treasury, 2014) has begun to publish analyses which seek to distribute the value of public spending across the household income distribution. O’Dea and Preston (2012) raise some questions about the assumptions made, and propose some alternative methods; but these methods have yet to be implemented. There is no agreed standard methodology for the attribution of benefits from public spending to households. This is an area in which considerable further research is needed, but it is not one in which there is an agreed international approach which can simply be applied to Ireland. Work on the SWITCH Research Programme<sup>7</sup> in the areas of health and housing can contribute to enhancing understanding of the issues. The present article, like most international assessments of the distributional impact of policy, is focused on taxes and transfers, which have a clearer cash value, rather than on services, for which there are separate and substantial problems of valuation and attribution.

The results we obtain relate to the “cash” or “first round” effects of policy changes, before any adjustments in individual behaviour such as changes in employment status or hours of work. This is by far the most common approach internationally (for example, this is the approach taken by the UK’s Institute for Fiscal Studies in its post-budget assessment, and by the Brookings/Urban Institute’s Tax Policy Center in the US in assessing new policy proposals). In other work (e.g., Savage *et al.*, 2014) we highlight the impact of tax and welfare changes on financial incentives to work such as marginal tax rates and replacement rates. The extent and nature of response to these financial incentives has also been examined in Layte and Callan (2001) and in Callan *et al.* (2009). The findings of such research need also to be taken into account when policy is trying to balance the sometimes conflicting objectives of equity and efficiency.

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<sup>7</sup> See [www.esri.ie/research/research\\_areas/taxation-welfare-and-pens/](http://www.esri.ie/research/research_areas/taxation-welfare-and-pens/).

## Measuring the Distributional Impact of Policy

Who has gained and who has lost from the measures included in Budget 2015, and the associated water charges? What has been the overall impact of the austerity budgets over the past seven years? Analysis based on selected example households<sup>8</sup> is common in immediate post-budget commentary, but this can never give us an overall picture of the impact of the budget for the population as a whole: it fails to take into account how common or uncommon these household types are in the population. To get an accurate overall picture of the impact of tax and welfare policy changes we need to do the calculations for large numbers of real households in a nationally representative sample. The ESRI tax-benefit model (SWITCH) allows us to do this: it estimates the impact of direct tax and welfare changes using anonymised data from the CSO's SILC.

The impact of policy change must be measured against an alternative specifying what would happen if the policy change did not take place (a “counterfactual” policy). In the construction of budgets, the official procedure constructs an “opening budget” against which changes are measured. For tax and welfare the conventional opening budget simply freezes tax rates, credits and welfare payments at their existing levels. While this is useful in accounting terms, it would be highly misleading in an analysis of distributional impact.<sup>9</sup> In normal times, with nominal wages, prices and real wages all showing positive growth, implementing the conventional opening budget would lead to real income *losses* for those dependent on welfare, while further up the income distribution incomes would *rise*. (Callan *et al.* (2001), Bargain and Callan (2008)).<sup>10</sup> The alternative used here is a policy which indexes both tax and welfare parameters with respect to the expected growth or decline in wages. This ensures that average tax rates are held constant (i.e., no fiscal drag); and leads to approximately equal growth (or decline) in income across different income groups (Callan *et al.*, 2001). It should be clear that this is designed to provide a “distributionally neutral” benchmark, and is not intended as a policy recommendation. There are many reasons why it may be desirable to depart from this benchmark; but having a distributionally neutral benchmark is essential in examining the distributional impact of policy changes.

We use forecasts of wage growth (or decline) to implement this approach on a prospective basis. Results examining the impact of Budget 2015 are based on

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<sup>8</sup> For example, a one-earner couple with two children.

<sup>9</sup> For a more detailed exposition, see Callan *et al.* (2001).

<sup>10</sup> When wages are falling, the conventional benchmark would give rise to income gains for welfare recipients and income losses for those in employment.

forecast wage growth of 1.4 per cent for 2015. This is an average of wage growth forecasts by the ESRI's *Quarterly Economic Commentary* (Duffy *et al.*, 2014) and the Central Bank's *Quarterly Bulletin* (Central Bank of Ireland, 2014.). Similarly, for income growth between 2008 and 2015 we use figures on wage growth from the CSO's Earnings, Hours and Employment Costs Survey for the available years (2009 to 2013) and the average of the wage forecasts from the ESRI's *Quarterly Economic Commentary* and the Central Bank's *Quarterly Bulletin* for 2014 and 2015. The net result is that growth in wages between 2008 and 2015 is expected to be less than half of one per cent.

Results shown are at the household level unless otherwise specified and are based on household disposable income (after taxes and benefits), adjusted for household size and composition, i.e., income per adult equivalent or "equivalised income".<sup>11</sup>

### **Water Charges**

While water charges are not technically a "budgetary measure" it is our view that they need to be taken into account when considering the impact of Budget 2015. Up to now, water services have been financed predominantly from taxation. The introduction of user charges for water can be seen as replacing some of the tax financing. From the point of view of an individual household, it will see a net benefit if its tax bill falls by more than the new water charge, and a net cost if the water charge is greater than a tax reduction.

Assessing the net balance between tax cuts and water charges requires a tax-benefit model to arrive at a clear overall picture, as administrative statistics do not permit this. The proposals regarding water announced on Budget day included a payment to those in receipt of a Household Benefit Package or Fuel Allowance, and a tax credit. SWITCH estimates suggested that this would reach 88 per cent of households. The revised water policy now makes provision for what is termed a "Water Conservation Grant" of €100, thus reaching the remaining 12 per cent of households. Charges are now capped at €160 for a one-adult household and €260 for a multi-adult household. The net effect is a low net price to the consumer, with a dual rate structure: when the €100 grant is factored in, this means a net payment of €60 for a one-adult household and €160 for a multi-adult household. Our analysis includes these net costs for each household.

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<sup>11</sup> This adjusts income to take account of household size. The scale used is the scale used in official monitoring of poverty in Ireland, i.e., 1 for the first adult, 0.66 for subsequent adults and 0.33 for children aged 14 or under.

## Budget 2015

A wide range of taxation and welfare measures are directly included in our model-based analysis, including:

- The widening of the standard rate income tax bands and the 1 per cent decrease in the higher rate of income tax;
- The increases to the USC thresholds, changes to the USC rates and the introduction of the new 8 per cent upper rate of USC;
- The increase in the standardised child benefit payment from €130 per child to €135;
- The re-introduction of a Christmas bonus<sup>12</sup> of 25 per cent of the weekly payment for people in receipt of long-term social welfare payments;
- The increase in the Living Alone Allowance;
- The revised water charges and €100 “water conservation payment” announced in November;
- Reductions in property tax rates for about half of the local authority areas; as this includes large urban areas, more than half of all households will gain from these reductions.

Some changes are too complex to be included in the model at this stage. Chief among these are:

- the changes governing eligibility for One-Parent Family Payment, with a reduction in the age limit for a qualifying child becoming effective in mid-2015, and a special Jobseeker Transition payment acting as an alternative for many of those affected;
- the Back to Work Family Dividend, whereby long-term unemployed people may retain the child-related portion of their welfare payment; in full for one year, and 50 per cent for a second year;
- the Housing Assistance Payment, currently being piloted, and due to be phased in nationally during 2015.

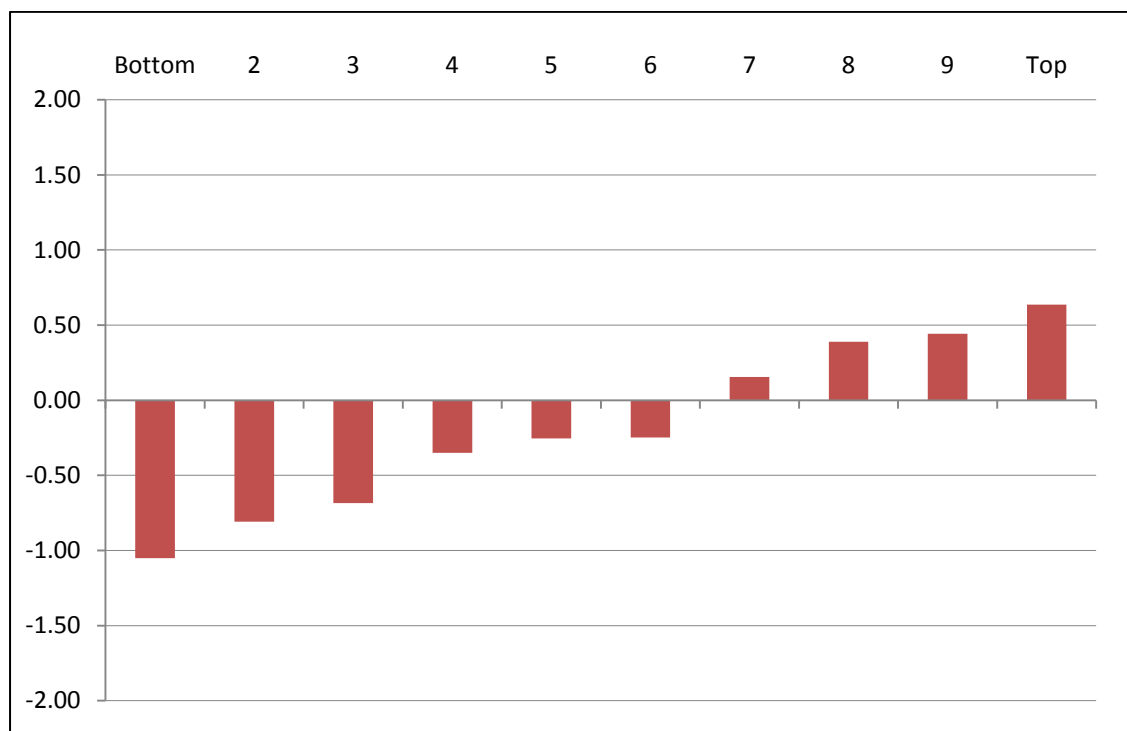
Research is underway to incorporate these aspects, and results will be published as they become available.

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<sup>12</sup> The bonus for 2014 was announced in Budget 2015, and is included in the analysis of this budget.



**FIGURE 1** Impact of Budget 2015 - Percentage Change in Disposable Income by Income Decile



Source: SWITCH estimates at December 2014, including the impact of water charges, changes to income tax bands, changes to USC and the welfare measures specified in the text.

The overall impact on household incomes of Budget 2015 and water charges is close to neutral, increasing average income by less than 0.1 per cent. Figure 1 shows that within this framework, there are gains and losses relative to a distributionally neutral wage-indexed budget. The largest losses are for the bottom decile, an average loss of just over 1 per cent, and for the second decile. Losses are incurred in each of the bottom six deciles, with the percentage loss declining as incomes increase. From the seventh decile onwards there are small gains. The top decile gains the most with an average gain of 0.6 per cent. This pattern of losses in the bottom half of the income distribution, declining as income rises, and gains in the upper reaches, rising with income can clearly be described as regressive.<sup>13</sup>

<sup>13</sup> Technically a regressive impact is one which involves the net percentage gain increasing with income, while a progressive impact would see the net percentage gain declining as income increases. A proportional impact would see the same percentage gain or loss across all income groups. Some patterns, including those for the 2009-2015 analysis undertaken here, are more complex and cannot be characterised simply as progressive, regressive or proportional.

The introduction of a new, higher USC rate counterbalancing the cut in the top tax rate for those on very high incomes gives rise to a less unequal outcome than a simple top rate tax cut. A simple top rate tax cut would have cost in the region of €230m in a full year. In effect, the higher USC rate claws back close to €100m of this, by capping the gains of those on the highest incomes at the same level as those on €70,000 per year.<sup>14</sup> Nevertheless, there are gains for all top rate taxpayers, and the fact that these are concentrated in the higher income deciles means that this group sees the greatest proportionate gains.

It should be recalled that these losses or gains are relative to the benchmark scenario, in which welfare payments and tax bands and credits are indexed in line with wage growth of 1.4 per cent. This indexed benchmark reminds us that even if taxes and welfare were kept constant in nominal terms, those in work would experience some “fiscal drag” as more of their income would be taxed at higher rates; and those depending on welfare payments would see their incomes fall further behind the average.

### **Budgets 2009-2015**

Ireland’s fiscal adjustment has been long and painful. Having examined the latest Budget, we now review the cumulative impact of the overall adjustment, from the initial Budget 2009 (October 2008) onwards. How have the changes implemented since the onset of the recession affected those at differing income levels? It must be remembered that this analysis includes a much wider range of measures taken over the seven years, including:

- the main changes to income tax, including cuts to income tax credits and the width of the standard rate band;
- the introduction of Universal Social Charge and subsequent revisions;
- elimination of the PRSI ceiling;
- the net changes in welfare payment rates over the period, with pension payment rates retaining the increase awarded in October 2008, and working-age payments ultimately reduced below their 2008 levels;
- net reductions in Child Benefit payment rates, with cuts in earlier years only partly offset by an increase in 2015;
- reductions in Jobseeker’s Allowance for the young unemployed;
- the impact of the public sector pension levy (Pension Related Deduction, PRD);

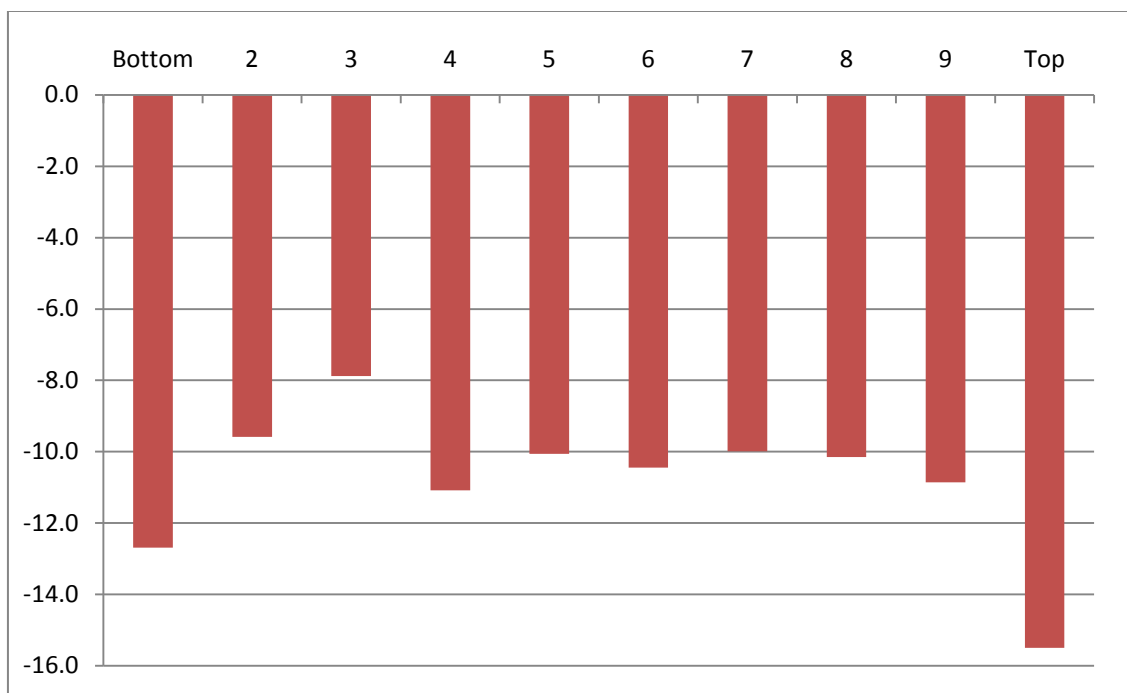
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<sup>14</sup> A further effect, incompletely captured here, is that a simple substitution of 1 per cent USC for 1 per cent top tax rate is likely to involve some losses for high income taxpayers, as USC does not permit many of the offsets in tax allowances or credits which are possible in the income tax system.

- explicit cuts in public service pay in 2010 and in 2013 as part of the Haddington Road Agreement);
- reductions in public service pensions;
- the introduction of the Local Property Tax;
- abolition of the Christmas Bonus in 2009, and its partial restoration in 2015;
- cutbacks in certain elements of the Household Benefits Package.

We augment the standard SWITCH model with estimates from other sources<sup>15</sup> of the distributional impact of a number of other policy changes.

**FIGURE 2** Impact of Budgetary Policy 2009-2015 - Percentage Change in Disposable Income by Income Decile



*Source:* SWITCH model at December 2014 incorporating main changes in direct tax, welfare and public service pay/pensions, and water charges; augmented by results on carbon tax and VAT, DIRT, specific Budget 2014 restrictions of tax reliefs for pension contributions and medical insurance premia, and Capital Gains Tax as described in Callan et al. (2013b).

The overall scale of the impact of austerity policies is determined by macro-level decisions regarding the size of tax increases and the extent of the reduction in welfare payments and public service pay. The distribution of these income losses over income groups depends on the detail of budgetary decisions regarding tax structures, welfare payment rates and decisions on the structure of public service pay cuts. Figure 2 summarises how the adjustment is spread over income groups

<sup>15</sup> Details of the methods can be found in Callan *et al.* (2013b).

(deciles) ranked from poorest to richest, taking into account these detailed tax, welfare and public service pay decisions.

For six of the ten deciles the income loss arising from policy changes was between 10 per cent and 11¼ per cent. Outside this band, the highest losses were for the top decile, which is estimated as having lost 15½ per cent of its income due to the policy changes examined here. The bottom decile is estimated as having policy-induced losses of 12¾ per cent. Somewhat lower losses are found in deciles 2 and 3, which include a higher than average representation of pensioner households.

The results for Budgets 2009 to 2015 are too complex to be characterised as either regressive, progressive or proportional. Over a substantial range the pattern is broadly proportional, but this does not extend to whole income distribution. The greatest policy-induced losses have been at the top of the income distribution, and the next greatest losses at the bottom. Only the third decile had a significantly lower loss (under 8 per cent) than others. To sum up: the net effect of Budgets 2009 to 2015 has been to squeeze incomes at all income levels, but by most of all at the top and the bottom of the income distribution.<sup>16</sup>

### Impact by Family Type

The preceding analyses have examined the impact of the current budget, Budget 2015, and the impact of all budgets 2009-2015 across the income distribution. Here we examine how different family types have been affected by budgetary policy changes. The analysis is conducted at the level of what is termed a “tax unit”, i.e. an individual or couple, together with dependent children, if any. Young adults including third-level students are treated as independent tax units.<sup>17</sup>

The largest family type (with over three times as many cases as any other) is single employed people without children and it has the largest gain. This category

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<sup>16</sup> In a broader analysis of the full impact of the recession itself and of policy measures, Callan *et al.* (2014) show that over the 2008 to 2012 period, the greatest percentage income losses were at the bottom of the income distribution, followed by the top. Different patterns are found by Maitre *et al.* (2014) in examining a measure of “economic stress”, which includes both objective items and items involving respondent’s judgements on their circumstances: the measure of economic stress is found to have risen most for middle income groups. One factor intervening between incomes and economic stress is the cost of housing. Callan *et al.* (forthcoming) will examine the extent, if any, to which results for income measures net of housing costs may differ from those based on incomes before housing costs.

<sup>17</sup> For this analysis, only the core modelled elements can be taken into account; it is not possible to cover the additional elements such as VAT changes, DIRT etc. in this analysis. The broad pattern of family-type impacts is not likely to be strongly affected by the addition of the extra-model elements. Work is currently underway to allow for the incorporation of indirect tax changes at family type level.

is set to gain on average 0.5 per cent from Budget 2015. Other family types with small gains include the single retired, and two-earner couples with and without children. The biggest losses are to be found among those who are of working age, but not at work: those who are unemployed, non-earning lone parents, and those who are ill or have a disability all see losses of at least 1 per cent.

**TABLE 1** Impact of Budgetary Policy 2009-2015 - Percentage Change in Disposable Income by Family Type

	Budget 2015	Budgets 2009-2015	Proportion of Families
	% change	% change	%
Single Retired Tax Unit	0.2	-5.2	11
Retired Couple	-0.4	-5.9	7
Single Employed without Children	0.5	-8.0	34
All Other Tax Units	-1.3	-9.1	8
Single Earner Couple without Children	-0.2	-9.7	5
Employed Lone Parent	-0.5	-9.7	5
Dual Earner Couple without Children	0.4	-11.1	5
Dual Earner Couple with Children	0.3	-11.2	9
Single Earner Couple with Children	-0.1	-12.1	7
Unemployed Couple	-1.4	-12.3	2
Non-Earning Lone Parent	-1.0	-12.6	2
Single Unemployed without Children	-1.2	-22.4	4

Source: SWITCH model at December 2014 incorporating main changes in direct tax, welfare, public service pay/pensions, and water charges.

In respect of Budgets 2009-2015, losses are larger and more widespread and there are no gains. Single unemployed people without children have experienced by far the largest losses ( more than 22 per cent): this reflects the cuts to jobseeker payments for the young unemployed in particular. Most family types saw losses of between 8 and 13 per cent. The contributing factors to the losses vary by income level. At the lowest income levels, reductions in welfare payment rates, property tax and water charges play significant roles. At the highest income levels, major contributory factors are income-related taxes (income tax and USC) and cuts in public sector pay. The lowest losses, of between 5 and 6 per cent, were experienced by single retired tax units and retired couples. This reflects the protection afforded to pension payments throughout crisis budgets.

## Conclusion

The Budget 2015 package needs to be considered together with the revised package of water charges and the “Water Conservation Grant”. Our analysis provides a nationally representative picture of the impact of the main tax and welfare changes in Budget 2015, taking into account the revised water package. The net impact is negative for low income groups, with the greatest loss, about 1

per cent, for households with the lowest incomes. There are small gains for high income groups due to income tax reductions, with a gain of 0.6 per cent for the highest income group. However, as the scale of the adjustment in Budget 2015 was small, the overall picture of gains and losses from the beginning of the austerity budgets remains similar to what was observed last year, i.e., the greatest losses imposed by austerity budgets have been for the top 10 per cent of households, with above average losses also experienced by the lowest income households.

Analysis at family unit level reveals that the greatest losses imposed by Budgets 2009 to 2015 were for single unemployed people, while the lowest losses were for pensioners. This reflects the substantial cuts in welfare payment rates for the young unemployed in particular, and the fact that pension payment rates, unlike working age payment rates, were not reduced.

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