Distributional Impact of Tax, Welfare and Public Service Pay Policies: Budget 2014 and Budgets 2009-2014

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Abstract

This article analyses the available evidence on the impact of Budget 2014, and of the series of Budgets from October 2008 up to and including October 2013. New analysis takes into account several aspects of policy which could not previously be included – such as the impact of DIRT tax increases, increases in Capital Gains Tax, and the abolition of the social welfare Christmas bonus. The analysis also covers the main indirect tax increases – carbon tax and VAT which affect the purchasing power of household income.

The results show that Budget 2014 had its greatest impact – a reduction of 2 per cent – on low income groups. The lowest impact was on some middle income groups (a loss of 1 to 1¼ per cent) while the top income group lost slightly less than 1¾ per cent – somewhat more than the middle, and less than the bottom income group.

Over the full period from 2009 to 2014, the results are quite different. All income groups experienced losses. The highest losses were for those in the highest 10 per cent of household income (adjusted for family size). This group saw losses of about 15½ per cent, mainly from tax increases and reductions in public service pay. At the other end of the income scale, policy-induced losses were somewhat higher than average (about 12½ per cent) for those with the lowest incomes. For most other income groups, the income loss was in a narrow range, between 11 and 12 per cent.

Introduction

These results do not conform with either a progressive pattern (losses increasing with income) or regressive pattern. (losses declining with income). Over a

substantial range the pattern is broadly proportional – similar percentage losses for each income group. But this does not extend to whole income distribution. Contrary to some perceptions of a sharper squeeze on middle income groups, the greatest losses have been at the top of the income distribution, and the next greatest losses at the bottom.

In this article we focus on the distributional impact of the main tax and welfare measures in Budget 2014 and the public service pay and pension measures contained in the Haddington Road Agreement. We also look at the distributional impact of the "austerity budgets" from Budget 2009 (budgets in October 2008 and April 2009) up to and including Budget 2014, and earlier public service pay and pension changes. We use SWITCH, the ESRI tax-benefit model, 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.[1] The areas covered by SWITCH – including income tax, social insurance, property tax, welfare benefits and public service remuneration – account for the bulk of the cash impact of budgetary policy changes in recent years. 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. Here we use a number of experimental approaches (described in the Appendix) which allow us to extend the coverage of the analysis to take account of the following:

- 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,
- and restrictions on tax relief for medical insurance premia.
- increases in Capital Gains Tax (CGT)

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). Like most assessments of the distributional impact of policy – in Ireland and internationally – we focus here 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. NESC (2013) reviews available evidence on the impact of cuts in public services.

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[1] 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.

Measuring the Distributional Impact of Policy

Where in the income distribution will the losses from Budget 2014 be felt most strongly? What has been the overall impact of the austerity budgets since 2008? Analysis based on a selected example such as a single person, a couple with two children and so on fails to give us an overall picture of the impact of the budget for the population as a whole. It also fails to take into account how common or uncommon these household types are in the population. Even within the same household type differences are likely with respect to labour market status, income levels and so on. To get the true distributional impact we must calculate the impact of tax and welfare policy changes on 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.[2] In normal times, with wage growth and price inflation positive, and positive real wage growth, implementing the conventional opening budget would lead to real income losses for those dependent on welfare, while incomes would rise further up the income distribution. (Callan *et al*., 2001, Bargain and Callan, 2008).[3] 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.

Forecasts of wage growth and decline are needed to implement this approach on a prospective basis. Similarly, accurate economy-wide measures of wage growth are needed for implementation on a retrospective basis. Results examining the

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[2] For a more detailed exposition, see Callan *et al.* (2001).

[3] When wages are falling, the conventional benchmark would give rise to income gains for welfare recipients and income losses for those in employment.

impact of Budget 2014 are based on an estimate of wage growth of 1.2% based on the average of wage growth forecasts by the ESRI's Quarterly Economic Commentary (Duffy et al., 2013) and the Central Bank's Quarterly Bulletin (Central Bank, 2013)

For income growth between 2008 and 2014 we use a combination of the most recent figures on wage growth from the CSO's Earnings Hours and Employment Costs Survey and again use the average of the wage forecasts from the ESRI's Quarterly Economic Commentary and the Central Banks Quarterly Bulletin. The net result is growth in wages of less than half of one per cent. All results shown are at the household level and are based on household's disposable income (after taxes and benefits), adjusted for household size and composition, i.e., income per adult equivalent or "equivalised income"[4].

Budget 2014

The taxation, welfare and public service remuneration measures which are directly included in our analysis are:

- Local Property Tax payable for a full year, rather than the half year payment in 2013
- A full year of the public service pay and pension reductions under the Haddington Road Agreement
- The reduction in the pension-related deduction for public service workers (as part of the Financial Emergency Measures in the Public Interest Act 2013)
- Abolition of the telephone allowance
- Reduction in Jobseeker's Allowance for those aged 22-25
- The standardisation of Child Benefit to €130 per child as announced in Budget 2013
- The reduction in the earnings disregard for those in receipt of the one parent family payment from €110 to €90 per week as announced in Budget 2013
- The standardisation of the minimum and maximum rates of Maternity Benefit at €230 per week
- The €5 increase in the minimum contribution for couples towards their rent under Rent Supplement scheme
- Removal of the Back To School payment for those who are over 18 and engaged in third level education.

The change from a One-Parent Family Tax Credit to a new Single Person Child Carer Tax Credit could not be modelled from the data available in the survey.

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[4] 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, .66 for subsequent adults and .33 for children aged 14 or under.

Budget 2014 also contained three further measures which we have attempted to incorporate in the analysis, specifically:

1. Restrictions on tax relief for medical insurance premia in excess of €1,000 per adult and €500 per child

2. Restrictions on tax relief for pensions paying more than €65,000 per annum.

3. An increase in DIRT tax from 33 per cent to 41 per cent.

The details of our approach in each of these areas are given in the appendix to this article. Here we may note some key features. For the medical insurance reliefs, we are able to use data on medical insurance premia reported in the SILC data to identify those who will be affected, and by how much. This can be combined with the existing information on their income situation to arrive at an estimate of the overall distributional impact of this component.

For the restriction on tax reliefs on pensions, we adopt the budgetary estimate of the likely revenue gain, and distribute this to the top two deciles – in the ratio 2/3 to the top decile, 1/3 to the ninth. The logic here is that the revenue gain is related to a realised pension of over €65,000 – which itself is enough to put an individual into the top decile or high in the ninth. This approach follows the budgetary estimate in taking a "cash" view of the tax to be paid, rather than accruing a liability over time – an approach which might be preferable, but which is not available due to lack of data at present.

Deposit Interest Retention Tax (DIRT) raises further issues. SILC data are not well suited to identifying the overall distribution of deposit interest, as it is possible for respondents in receipt of small amounts to indicate simply that they obtain less than €100 per year. A new CSO survey on Household Consumer Finance will include information on the distribution of deposits. Until its publication we must rely on indications from much earlier surveys (Nolan, 1991) which suggest a split of about 50% of deposits in the top 3 deciles, and about 25% each in the bottom 4 and the middle 3 deciles. There are indications of a similar split in the UK based on 2005 data[5] . We attribute the increases in DIRT tax payments based on shares which are an average of these two distributions (see appendix). Coincidentally, these distributions are quite similar to the distribution of disposable income; if this were true, then DIRT would act like a proportional tax across the income distribution. It should be noted, however, that household surveys typically do not represent the full level of deposits – whether because of underrepresentation of those with large deposits, or because of underreporting. There are therefore further issues to be investigated about the location of these underrepresented or underreported deposits in the income distribution. Finally, it must be noted that

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[5] O'Dea, personal communication, based on the research undertaken for Crossley and O'Dea (2010).

the treatment of DIRT which is possible here does not capture the effect of the exemption from DIRT available to low income elderly persons. To the extent that this option is taken up, this will reduce the impact of the DIRT increase on low income deciles. Given the factors just mentioned, the results regarding DIRT must be regarded as tentative, and we await the findings of the Household Consumer Finance Survey with interest.

FIGURE 1 Impact of Budget 2014 - Percentage Change in Disposable Income by Income Decile
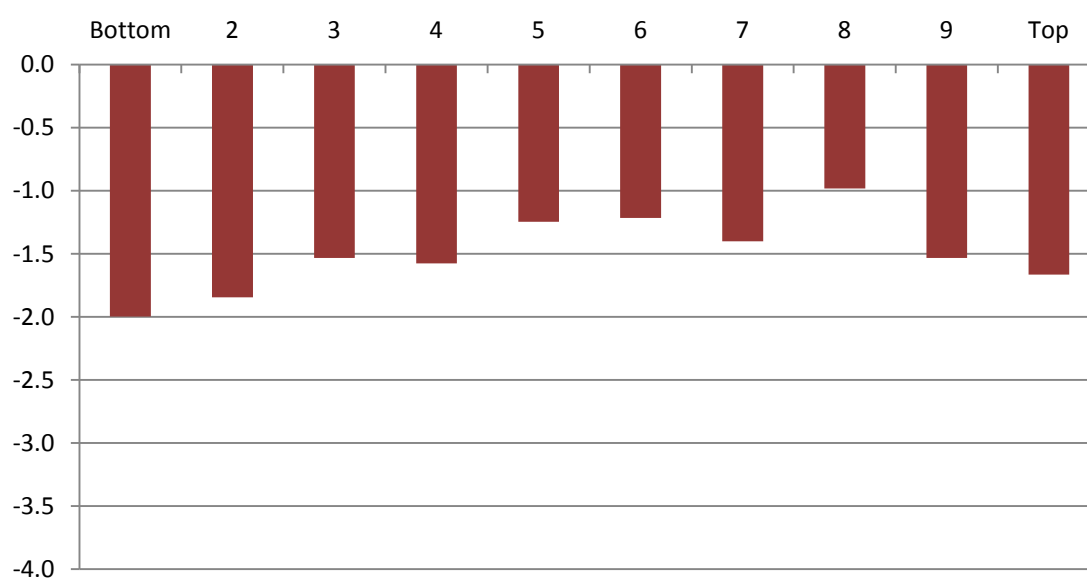
Sources: SWITCH estimates at December 2013, including the impact of a full year of the Local Property Tax, and a full year of the Haddington Road Agreement, reductions in Jobseeker payments for the young unemployed, other welfare measures specified in the text. These estimates are augmented by results on DIRT and specific restrictions on tax relief for medical insurance premia and pension contributions as specified in the Appendix.

Figure 1 shows that the largest losses from Budget 2014 are for the bottom decile – an average loss of 2 per cent – and for the second decile. Most other income groups lose on average by between 1 and 1.5 per cent, with a marginally greater loss for the top decile. The somewhat higher losses for deciles 1 and 2 can be characterised as mildly regressive, but the scale of the percentage differences between other deciles is small, and the lowest losses are not for the top income groups – as would be the case for a classic regressive pattern – but for some of the middle income deciles (deciles 5, 6 and 8).

It should be recalled that these losses are relative to the benchmark scenario, in which welfare payments and tax bands and credits are indexed in line with wage growth of 1.2 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 2009-2014

Ireland's fiscal adjustment has been long and painful. Having examined the latest instalment – Budget 2014 – we now review the 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? In this analysis we include the following measures which are part of the "core" SWITCH model analysis:

- the introduction of Universal Social Charge.
- elimination of the PRSI ceiling
- the main changes to income tax – including cuts to income tax credits and the width of the standard rate band
- 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
- reductions in Child Benefit
- reductions in Jobseeker's Allowance for the young unemployed
- the impact of the public sector pension levy (Pension Related Deduction – PRD)
- 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
- the Non-Principal Private Residence Charge

In addition, the SWITCH model estimates now include the impact of the abolition of the Christmas bonus for welfare recipients in 2009.[6]

Again, we augment the standard SWITCH model with estimates from other sources[7] of the distributional impact of a number of other policy changes. These estimates are necessarily less precise, for reasons explained in the Appendix, and the possibilities of improving the precision of these estimates is under consideration.

- The impact of carbon tax and of VAT changes is incorporated using results based on Callan et al. (2009) and Leahy et al, (2011)
- Budget 2014 restrictions on tax reliefs on pension contributions and medical insurance premia are included as detailed in the Appendix
- Estimates of the impact of DIRT increases over the 2009-2014 period are included as described in the Budget 2014 analysis

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[6] Initially it was not possible to distinguish between those on short-term Jobseeker's Assistance (who did not receive the bonus) and long-term Jobseeker's Assistance (who did receive the bonus). Work undertaken earlier this year resolved this issue and allows the impact of the abolition of the bonus to be examined.

[7] Details of the methods can be found in the Appendix.

- We derive an approximate estimate of the impact of Capital Gains Tax across the income distribution, based on information kindly supplied by the Revenue Commissioners. The methods used are entirely our responsibility and are described in the Appendix.

Figure 2 illustrates that over this 6 year period, the distributional impact shows that for seven of the 10 deciles, the income loss arising from budgetary and public service pay policy was between 11 and 11 ¾ per cent. Outside this band, the highest losses were for the top decile, which is estimated as having lost close to 15 ½ per cent of its income due to the policy changes examined here. The bottom decile is estimated as having policy-induced losses of 12½ per cent.

FIGURE 2 Impact of Budgetary Policy 2009-2014 - Percentage Change in Disposable Income by Income Decile
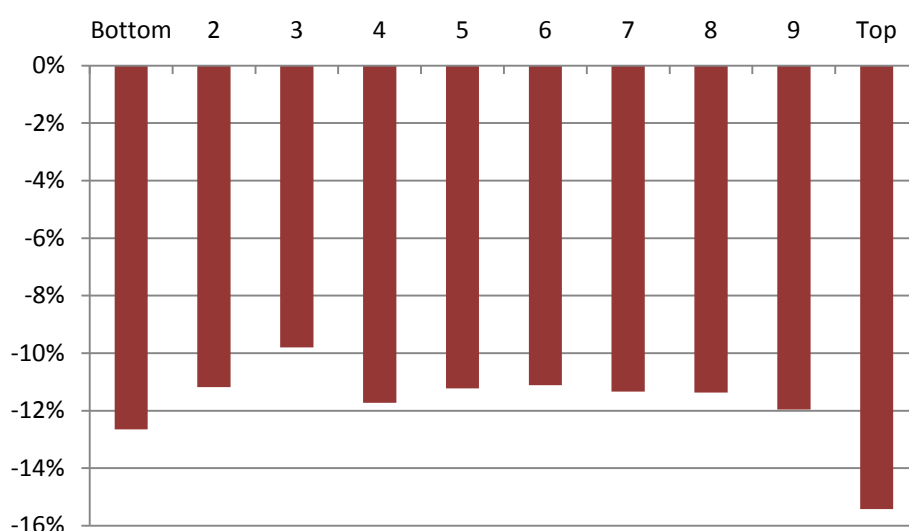
Sources: SWITCH model at December 2013 incorporating main changes in direct tax, welfare and public service pay/pensions; augmented by results on carbon tax and VAT, DIRT, specific Budget 2014 restrictions of tax reliefs for pension contributions and medical insurance premia, and Capital Gains Tax as described in the Appendix.

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

These results do not conform with either a progressive pattern (losses increasing with income) or regressive pattern. (losses declining with income). Over a substantial range (deciles 4 up to and including decile 9 – and also decile 2) the

pattern is broadly proportional. But this does not extend to whole income distribution. Contrary to some perceptions of a sharper squeeze on middle income groups, the greatest 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 10 per cent) than others.

How do these results compare with the most recent estimates based on the SWITCH model alone,[8] which were published in September 2013, covering Budgets 2009 to 2013 inclusive? The greatest losses are at the top, by a significant margin in each case. The impact on the bottom decile is greater in the current, extended analysis, for three main reasons:

1. The impact of indirect taxes, already examined in our analysis of Budgets 2010 and 2012, bore more heavily on low income groups. The carbon tax, introduced in 2010, and later increased, is the main driving factor, leading to a reduction of close to 1½ per cent in the income of the bottom decile.

2. Allowing for the abolition of the Christmas bonus welfare payments in 2009 adds slightly over half of one per cent to losses of the bottom decile.

3. Budget 2014 itself, as seen in analysis above, led to a loss of about 2 per cent in income for the bottom decile.

The second decile is subject to similar influences, but the third decile remains the one where policy reduced income by the lowest percentage.

Conclusion

This article provides information on the distributive impact of Budget 2014, including for the first time estimates of the impact of DIRT increases, and of restrictions in tax relief for pension contributions and medical insurance premia. The inclusion of these instruments makes for a more even impact across the income distribution, but the greatest impact is still on those with the lowest incomes. One caveat is that the distribution of deposits, and deposit interest income, is based on available evidence which is less than ideal – more will be known when the CSO reports results from its Household and Consumer Finance Survey next year, and we plan to revisit the issue at that point.

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[8] See http://tinyurl.com/lnu9nse for the September 2013 analysis, which does not include the items in the Appendix to the present article.

Turning to the longer-term view of impacts over the 2009 to 2014 period, we are now able to provide a picture which includes in addition to the standard tax and welfare measures, the impact of DIRT increases, Capital Gains Tax increases, VAT and carbon tax, and the abolition of the Christmas bonus in 2009. It is still the case that policy changes gave rise to the largest losses at the top of the income scale: the top 10 per cent of households lost by 15½ per cent. The next highest losses are at the bottom of the income scale, where incomes were reduced by 12½. Losses are relatively even across other income groups at around 11 per cent, except for the third decile which had the lowest loss of less than 10 per cent. Thus, policy impacts were greatest at the top, and then at the bottom of the income distribution – contrary to some perceptions of a particularly sharp squeeze on middle incomes.

Appendix: Methods and Sources

The way in which the SWITCH model simulates direct taxes, cash benefits and changes in public service pay has been set out in a series of papers (most recently Keane et al. (2012)). The model is currently based on 2010 SILC data, which can be uprated and reweighted to represent later years.

When seeking to identify policy impacts, we compare actual policy for a given year with a "distributionally neutral" benchmark, obtained by indexing policy from the base year in line with wage growth (or in some cases, wage decline) between the base year and the end year.

There is a choice between modelling the policy impact using a base year or end year population. This familiar index number problem is discussed in Bargain and Callan (2010), who find that a geometric average of the results under base- and end-period weighting has some desirable properties. However, this technique can only be used when data for both the base and the end period are available. When seeking to cover the most recent policy developments this is simply not possible – at best, there is typically a two to three year lag from data collection to data processing and analysis, and the incorporation of new data into a tax -benefit model.

Our estimates are reweighted to represent the 2014 situation for the 2013/14 analysis and for the longer run analysis (2009-2014). We have also examined the alternative of using a sample calibrated to the initial year, and the main conclusions presented here are not affected.

As the SILC data does not contain information on items such as expenditure we focus next on the methods used to incorporate estimates of the distributional impact of a number of different policy elements into the overall mix.

Carbon Tax

The distributional effects of the increase in carbon tax were estimated by Sean Lyons, based on the ESRI ISus model and using the CSO's Household Budget Survey 2004/5 Microdata File. This updates earlier work by Callan, Lyons et al (2009) which found that a €20 carbon tax was regressive. HBS data showed that the richest households emitted only 37 per cent more carbon dioxide than the poorest households—while the equivalised disposable income of the richest households was eight times that of the poorest. The estimated impact of the €20 carbon tax on disposable income ranged from a 1.4 per cent loss for the bottom decile, to a 0.4 per cent loss for the top decile. These estimates of the impact on disposable income by decile are used in this article.

VAT

We take a similar approach to include the distributional impact of changes in VAT as we do for the carbon tax increases. We rely on estimates of the distributional impact of changes in VAT from Leahy et al. (2011). Using the 2004/2005 Household Budget Survey, the authors assessed the amount of VAT that households pay as a proportion of weekly disposable income, and reported results by decile of equivalised household disposable income. They showed that the poorest households were worst affected by increasing the standard VAT rate from 21 per cent to 23 per cent and lowering the reduced VAT rate to 9 per cent for some items (including non-bread bakery products)[9]. The bottom decile spent almost 1 per cent more of their income on VAT as a result of the change. The top decile spent less than 0.4 per cent more of disposable income on VAT following the change. Again, we use these estimates of the distributional impact of the VAT increase in this article.

Medical Insurance Premia

The SILC data contains information on health insurance premiums. We adjusted these premiums to 2014 values and identified the distribution of those whose premium was in excess of the limit of €1,000 per adult and €500 per child. We simulated the implications of the new rules for the tax liabilities of those affected, and derived the distribution of the increased tax liabilities across the income distribution. This distribution was then used to apportion the tax increase,

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[9] The reduction in the reduced VAT rate was not included in Leahy et al. (2011) but estimates of its effects were kindly supplied by Sean Lyons and Anne Pentecost, based on the same model.

estimated by us at €84m, to relevant deciles. Budget 2014 indicates an expected revenue increase of €127 million; overall findings were not very sensitive to a scenario in which the tax increase was calibrated to this level.

Deposit Interest Retention Tax

The CSO are currently conducting the Household Finance and Consumption Survey which will provide valuable information in this area, but results will not be available until 2014. The SILC data provides information on interest income, but respondents are permitted not to answer if they indicate that their interest income was less than €100 per year. This makes for difficulties in interpreting the distribution of interest income. We therefore draw on two other sources to arrive at an approximate distribution of increased DIRT liabilities across income deciles. The first is Nolan (1991) which describes the pattern of deposit holdings across income deciles in Ireland in 1987. While this may seem too long ago to be useful, it is remarkable that a very similar distribution is found in recent years for the UK (O'Dea, personal communication, based on data from the British Household Panel Study, as used by Crossley and O'Dea (2010)). We use a simple average of these two sources as our basic distribution of deposits across income groups. Broadly speaking the distribution is concentrated on high incomes – but only to about the same extent as income. This may seem surprising, as wealth is often thought to be more concentrated on high incomes. However, it may be that those in high income deciles tend to hold their wealth in a more diversified portfolio, with bank deposit accounts competing with pensions, property and other financial assets. Furthermore there are older persons who have significant assets but low incomes.

On all of these issues, the new CSO Survey on Household Finance and Consumption will tell us much more and we will adjust our estimates in the light of new information.

Pension Tax Relief

The impact of the cap on pension tax relief is particularly difficult to quantify at present. The policy is designed to affect only those whose pension income will be above €65,000; and to operate only when that pension is realised and put into payment. Official estimates indicate exchequer savings for 2014 in the region of €120 million[10]. Pension incomes of €65,000 would, for a single person and many couples, imply that the recipient was in the top decile or at least the ninth. We therefore assume that two-thirds of the impact will be on the top decile, and one-

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[10] See http://www.kildarestreet.com/wrans/?id=2013-11-05a.500

third on the ninth decile. Some other divisions, allocating less to the top quintile, and some losses to deciles 7 and 8, led to similar results.

Capital Gains Tax

Most surveys of household income distribution do not include information on capital gains, and as a result, most analyses of distributional impact do not include capital gains or capital gains taxes within their remit. (Canberra Group, 2012). It can be argued, however, that where, as in many countries, capital gains tax rates are lower than the relevant personal income tax rate, high income individuals have an incentive to take income in the form of capital gains. Even without this incentive, the association between high income, high net worth and capital gains means that capital gains taxation may tend to be focused on high income individuals.

Here we investigate this issue, using aggregate statistical information supplied by Revenue on the distribution of capital gains tax payments over tax units by gross income class for 2011. Mapping from this information into household deciles is not straightforward – essentially requiring a conversion from gross income to equivalised disposable income, which can only be done in an approximate fashion. However, the fact that a very high proportion of capital gains tax liabilities was attributable to those with incomes of more than €150,000 made it clear that about three-quarters of CGT liabilities could be attributed to the top decile. We have used this statistical profile to attribute the projected revenues from increased capital gains tax as a charge on the incomes of households in the SILC survey.

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