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Income Taxes and Income Tax Options - A Context for Budget 2014

Micheál L. Collins

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Nevin Economic Research Institute (NERI)

31/32 Parnell Square
Dublin 1
Phone + 353 1 8897722

Carlin House
4-6 Donegall Street Place
Belfast
BT1 2FN,
Northern Ireland
Phone +44 28 902 46214

Email: info@NERInstitute.net
Web: www.NERInstitute.net

INCOME TAXES AND INCOME TAX OPTIONS - A CONTEXT FOR BUDGET 2014

Micheál L. Collins, NERI*

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ABSTRACT

The remaining gap between Ireland's total government revenue and total expenditure, the budget deficit, sets the context for the fiscal adjustment planned for Budget 2014 (October 2013). Under the terms of Ireland's *Memorandum of Understanding* with the Troika (EC, ECB and IMF) that deficit should reach 3% of GDP by 2015. The composition of the adjustment planned in Budget 2014, and indeed Budget 2015, remains a discretionary domestic policy choice. Although there have been some calls for no further adjustments on the taxation side, the reality remains that contributions from both taxation and expenditure measures are unavoidable; it is the scale of each of these that represents the current policy choice. This paper focuses on the prospect of raising additional taxation revenue from the primary source of exchequer taxation revenue, income taxes. In particular, it explores the potential for additional income taxation revenue from individuals and households at the top of the income distribution.

Focusing on these households and individuals the paper demonstrates that options are available to Government for additional revenue generation. While no choices regarding tax increases are simple, or likely to be free from behavioural implications, the options assessed point towards feasible source of revenue open to policy makers as they frame the forthcoming fiscal adjustment.

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All correspondents to mcollins@NERInstitute.net

INCOME TAXES AND INCOME TAX OPTIONS - A CONTEXT FOR BUDGET 2014[1]

Micheál L. Collins

INTRODUCTION

The remaining gap between Ireland's total government revenue and total expenditure, the budget deficit, sets the context for the fiscal adjustment planned for Budget 2014 (October 2013). Under the terms of Ireland's *Memorandum of Understanding* with the Troika (EC, ECB and IMF) that deficit should reach 3% of GDP by 2015. The composition of the adjustment planned in Budget 2014, and indeed Budget 2015, remains a discretionary domestic policy choice. Although there have been some calls for no further adjustments on the taxation side, the reality remains that contributions from both taxation and expenditure measures are unavoidable; it is the scale of each of these that represents the current policy choice. This paper focuses on the prospect of raising additional taxation revenue from the primary source of exchequer taxation revenue, income taxes. In particular, it explores the potential for additional income taxation revenue from individuals and households at the top of the income distribution.

The structure of the paper is as follows. The next section outlines the data and income definitions used in this examination. The paper then overviews Ireland's income distribution, drawing on new analysis from the NERI's microeconomic model. That empirical analysis also allows the paper to profile the effective taxation rates faced by households and individuals across the income distribution. Subsequently, and focusing at the top of the income distribution, the paper explores the revenue potential and possible policy choices associated with increasing the tax contributions of high earners. The latter includes assessments of reforms to the structure of the universal social charge (USC), tax credits, tax expenditures and minimum effective tax rates. Finally, the paper concludes.

DATA AND INCOME DEFINITIONS

The analysis in this paper draws on the NERI's modelling and analysis of the current Republic of Ireland taxation system. Complementing this, the structure of the income distribution and many of the paper's tax revenue estimates come from the forthcoming Republic of Ireland microeconomic model which is being developed to facilitate assessments of trends and policy options on issues including earnings, welfare and taxation. The model, and the analysis in this paper, draws from an examination of the micro data from the Central Statistics Office's (CSO) 2011 Survey on Income and Living Conditions (SILC). This survey is part of a Europe wide household living standards survey and collects income and living standards information from a representative national sample. In 2011 the dataset comprised responses from 11,005 individuals in 4,333 households. The data includes a probability weight variable to correct for under-representation and non-response and these weights are used in the analysis below. The

[1] This paper builds on two recent research reports which examined reforms to tax credits and the structure of Ireland's income distribution. See Collins, 2013a and 2013b.

collected income data is reconciled by the CSO with tax records in an attempt to ensure its accuracy.

Like all survey data sources, the SILC dataset, and consequently any analysis drawn from it, is subject to some caveats. In particular, income surveys tend to experience lower response rates from high income households, a feature which may bias down some of the revenue estimates reported later. Similarly, successful sampling can be challenging among low-income households and minorities while those in institutions are excluded from the sample.[2] However, the SILC data remains the most detailed and robust data source available for Irish individual and household income and offers the most comprehensive method for examining policy options such as those explored in this paper.

A further challenge is that the SILC data used in the paper is for 2011 while the policies under consideration are for 2014. The impact of this difference on the representativeness of the results below depends on how significantly the profile of earners, and in particular high income earners, has changed between 2011 and 2014. An insight from the Revenue Commissioners published and preliminary data for 2010-2012 suggests limited change in the number of high income tax cases over that period implying some stability in the number of individuals likely to be impacted by the policy (see appendix table A1).[3]

Three income definitions are used in the calculations and comparisons in the paper. Gross income comprises all the income flowing to an individual or household from both direct income (cash and non-cash earnings, self-employment profits, private pensions, rental income and investments) and social transfers. However, as some components of gross income are exempt from taxation (e.g. child benefit, proportions of retirement lump sums) these are excluded from the second income definition, taxable income. It therefore represents the income tax base appropriate for calculating income tax; there are further and broader definitions for the tax bases used to calculate social insurance contributions and the Universal Social Charge (USC). Table 1 presents a comparison between the gross income and taxable income bases using the 2011 SILC microdata. Given the aforementioned exemptions from taxation for certain income sources, the taxable income distribution is more skewed towards lower income categories.

Table 1: Distribution of Gross Income and Taxable Income across all individuals in the state, 2011

Income Category	Gross Income	Taxable Income
€0 - €16,500	2,890,000	3,030,000
€16,500 - €50,000	1,200,000	1,060,000
€50,000 -€75,000	262,423	256,267
€75,000-€100,000	86,027	85,689
€100,000+	53,463	50,963
Total	**4,490,000**	**4,490,000**

Source: Calculated by author from SILC 2011 microdata.

[2] These sampling challenges, common to all households surveys, are explored further in: Groves and Couper (1998), Fitzgerald et al (1998), Goyder (1987), Nathan (1999), Cheesbrough (1993), Lynn and Clarke (2002) and Uhrig (2008).

[3] Note, the final version of the NERI Microeconomic model will address this issue and update the baseline year SILC data to allow simulations for the current year.

The third income definition is disposable income. It is calculated as gross income minus any tax and social contributions paid. In effect it is a measure of the income households have to live off.

IRELAND'S INCOME DISTRIBUTION

The shape of the income distribution and possible methods of altering it, remain central to policy formation and analysis in Ireland. Whether it is the examination of policies to improve the equity of that distribution or the consideration of policy choices on the structure of the income distribution. Based on an analysis of the 2011 SILC micro data, this section outlines the latest data on the structure of Ireland's income distribution – the data was made available in mid-2013.[4] The analysis serves as a preface to the next two sections of this paper, which in turn examine effective taxation rates across the gross income deciles and options for increasing taxation contributions from those at the top of the income distribution.

Table 2: Average Gross and Disposable Weekly Household Income by Decile, 2011

Decile	*Gross* €	*Disposable* €	*Gross* %	*Disposable* %
Bottom	166.27	164.70	1.64%	2.05%
2	293.55	292.15	2.89%	3.64%
3	420.64	412.27	4.14%	5.14%
4	533.77	512.24	5.26%	6.39%
5	666.83	626.51	6.57%	7.82%
6	829.14	735.99	8.17%	9.18%
7	1,056.71	889.89	10.41%	11.10%
8	1,348.16	1,067.94	13.28%	13.32%
9	1,787.61	1,322.30	17.61%	16.50%
Top	3,047.49	1,992.14	30.02%	24.85%
Mean / Total	**1,014.75**	**801.43**	**100.00%**	**100.00%**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

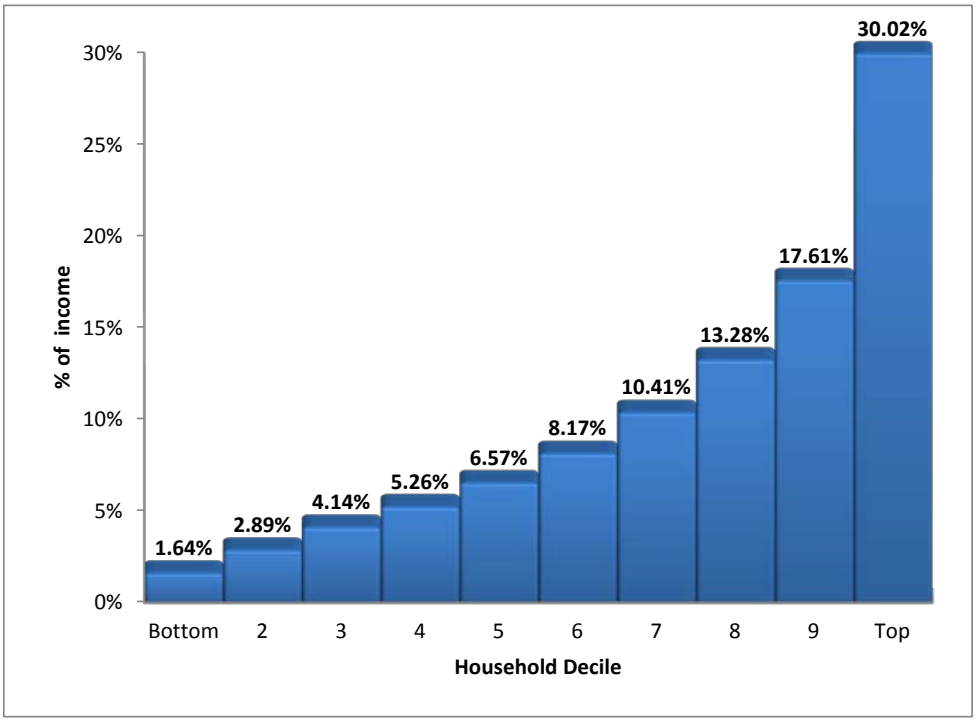
Notes: See table A2 in the appendix for a more comprehensive decomposition of decile incomes.
Data is not equivalised.

Table 2 outlines the nominal and proportional distribution of gross and disposable income across the deciles in 2011. Deciles represent 10% groups of the population ranging from the 10% of households with the lowest gross income to the 10% of households with the highest gross income. Table A2 in the appendix provides a more detailed breakdown of the average composition of income within each decile.[5] The table, and figures 1 and 2, highlight the skewed nature of the income distribution; not to be unexpected given historical and international trends and the prevalence of single person welfare-dependent households towards the bottom of the income distribution. Looking only at disposable income, notable findings include:

[4] See Collins (2013b) for a further examination of the income distribution and the effectiveness of Ireland's redistributive system.
[5] Table A2 in the appendix is equivalent to the gross income decile table normally published by the CSO as part of their annual SILC report. The table was not published as part of the 2011 release (see CSO, 2013).

- households in the top 30% have a weekly disposable income of more than €1,000 with the top decile having an average weekly disposable income of almost €2,000.
- there is a pronounced difference between the share, and nominal income, of the 9th and top decile – this is also the case in the gross income distribution.
- the share of the top 10% of households (21.85%) is more than ten times the share of the bottom 10% (2.05%).
- the share of the bottom 50% (25.05%) is almost the same as the share of the top 10% (24.85%).

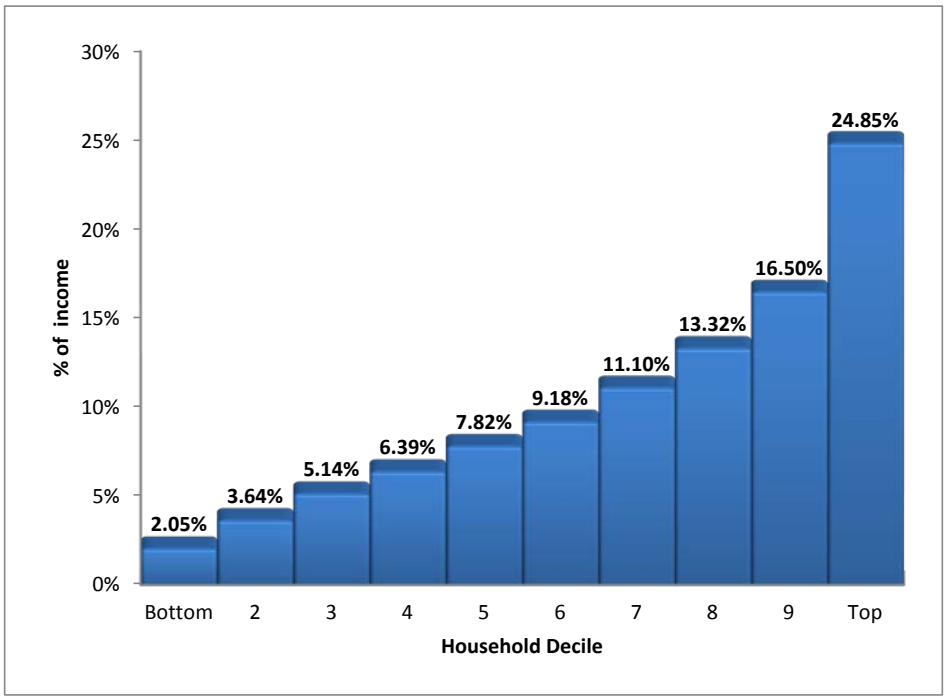
Figure 1: Distribution of Gross Weekly Household Income by decile, 2011



Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

The figures in table 2 report the average weekly income for households in each of the deciles. Within these deciles household income varies, and to further complement our understanding of the income distribution, table 3 reports the weekly and annual gross income thresholds, or entry points, for each of the deciles. At the bottom of the income distribution, a household is recorded as in the lowest decile if it reports a weekly gross income of less than €253 (€13,226 per annum) while at the top of the income distribution households above a weekly gross income of €2,089 (€108,997 per annum) reside in the top 10% of Ireland's income distribution.

Figure 2: Distribution of Disposable Weekly Household Income by decile, 2011



Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

Table 3: Household Deciles Gross Income Thresholds/Entry-points, 2011

Decile		Gross Household Income Weekly €	Annual €
Bottom	Gross income ***below***	253	13,226
2	Gross income ***above***	253	13,226
3	Gross income ***above***	352	18,363
4	Gross income ***above***	474	24,731
5	Gross income ***above***	594	31,011
6	Gross income ***above***	742	38,704
7	Gross income ***above***	924	48,200
8	Gross income ***above***	1,190	62,104
9	Gross income ***above***	1,534	80,019
Top	Gross income ***above***	2,089	108,997

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.
Note: Values rounded for presentation purposes.

As outlined earlier, the difference between the gross and disposable income distribution is contributions from households to the exchequer in income taxes and social insurance. Using the SILC microdata the next section quantifies the contribution made by each decile using effective taxation rates.

EFFECTIVE INCOME TAXATION RATES FOR HOUSEHOLDS & INDIVIDUALS

Using the SILC data it is possible to examine the scale of income taxation paid by households and individuals across the income distribution. Comparing the total amount of income taxes (including social insurance) with total gross income, an effective taxation rate can be calculated. These rates best reflect the true scale of contributions made by households and individuals in income taxes and incorporate the various tax credits, rates, bands and exemptions which typify the income tax system. At is simplest; a household with a gross income of €50,000 that pays a total of €10,000 in income taxes, USC and PRSI reports an effective taxation rate of 20%.

Households

Table 4 outlines the results of the analysis for households. On average Irish households experience an effective tax rate of 14.44%. Over the past number of years the average effective tax rate for households has increased from 12.8% in 2007 and 13.5% in 2010.[6] Across the income distribution, the effective rates reflect the progressivity of the taxation system with very small contributions from households with the lowest incomes and the bulk of income taxation flowing from households from the 4th decile and above. At the top of the income distribution, the top 10% of households pay an average of 25.64% of their gross income in income taxes.

Table 4: Average Gross Income, Income Tax Paid and Effective Tax Rates, by household decile 2011

Decile	Average Annual Gross Income €	Average Annual Tax and SI paid €	Average Effective Tax %
Bottom	8,675.89	18.27	0.21%
2	15,317.67	28.21	0.18%
3	21,949.04	145.04	0.66%
4	27,852.17	483.51	1.74%
5	34,795.24	980.41	2.82%
6	43,264.32	2,555.49	5.91%
7	55,139.07	5,422.09	9.83%
8	70,347.16	9,336.24	13.27%
9	93,277.24	16,739.83	17.95%
Top	159,018.00	40,767.51	25.64%
Mean annual	**52,949.46**	**7,644.31**	**14.44%**
Mean weekly	**1,014.75**	**146.50**	**14.44%**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

Notes: Table A2 in the appendix provides a weekly breakdown of gross and disposable income by decile.
Table A3 in the appendix provides corresponding figures for 5% groups of the household population.
Table A4 in the appendix provides revisions to these figures using alternative definitions of gross income.

[6] Based on an analysis by the author of published SILC data.

A priori effective taxation rates might be expected to be higher than those reported in table 4. However, the combination of tax-free income (e.g. child benefit, pension lump sums) and the availability of various tax expenditures allow households to reduce their actual effective taxation rates. As an example, three case studies are outlined in Table 5, each availing of standard tax breaks. The cases chosen are for two PAYE earners with two children.[7]

Table 5: Three Case Studies of Households and their Effective Tax Rates – 2013 basis

	2 Income PAYE Couple & 2 Children		
	Case 1	**Case 2**	**Case 3**
Earnings	€50,000	€100,000	€100,000
Child Benefit	€3,120	€3,120	€3,120
Total income	€53,120	€103,120	€103,120
Tax due*	€6,800	€30,300	€30,300
Effective tax rate	**12.80%**	**29.38%**	**29.38%**
Tax Breaks**			
Pension contribution of:	€3,500	€10,000	€20,000
Health expenses of:	€400	€500	€500
Flat rate expenses*** of:	€100	€150	€300
Transport tickets of:	€0	€1,200	€2,400
Tax due post breaks	€5,265	€25,398	€20,596
Actual effective tax rate	**9.91%**	**24.63%**	**19.97%**

Notes: *Initial effective tax due has been calculated as per the examples in Table A5 of the appendix.
** Some tax breaks are available at the marginal rate and others at the standard rate. This has been factored into the calculations.
*** Also known as 'Expenses Allowable to Employees under Schedule E'.

Taking the third case study (for illustrative purposes only as this could also apply to the others), were the household to avail of other, reasonably common, tax breaks it could reduce its tax liability further. For example: a capital gain of €2,500 would reduce the effective rate by 0.5% (to 19.5%) as the first €1,270 of a gain for each person is tax free; an additional voluntary pension contribution (AVC) of €10,000 would reduce the effective tax rate by almost 4% (to 16%); paying €5,000 of education fees would reduce the effective tax rate by a further 0.5% (to 19.5%); and €2,000 of mortgage interest relief per annum would further reduce the effective rate by 0.4%.[8] Similarly, were the household to have three rather than two children (not a tax break) this would increase gross household income further and reduce the effective tax rate by 0.3% (to 19.68%).[9] Were all these to occur together, the net effect would be an effective tax rate of 14.56%. A household could reduce this rate further by accessing any of the other, less common, tax breaks (see text later in this paper).

[7] The benchmark effective tax rates (before any tax free income or tax breaks) for various household types are outlined in table A5 in the appendix.
[8] There is also a tax credit available for household who are renting since before 2010. Its value varies depending on the household composition and age of the renters. Both the rent tax credit and mortgage interest relief are being phased out; expiring in 2017.
[9] Children are far from a tax-break – see research on the cost of a child from MacMahon et al (2012).

Individuals

An examination of the individual gross income distribution and the effective tax rates experienced within it is reported in table 6. The data is calculated using the same SILC 2011 microdata source and is focused on those aged 17 years and above. Again, the progressivity of the tax system is reflected in the reported effective tax rates. The table also underscores the skewed nature of the income distribution – average gross incomes are below €25,000 for almost 70% of the adult population and effective tax rates only breach 10% of income for the top 30% of individual income earners. At the top of the individual gross income distribution, the top 10% report an average gross income of €83,654 and an effective tax rate of 34%. On average adults pay an effective tax rate of 19.4%. However, as individuals tend to live within households, sharing the collective household income and resources, the household data in table 4 is more informative of both individual and household living standards and disposable incomes.

Table 6: Average Gross Income, Income Tax Paid and Effective Tax Rates, by individual decile 2011

Decile	Average Annual Gross Income €	Average Annual Tax and SI paid €	Average Effective Tax %
Bottom	0.00	48.86	- %
2	2,099.60	29.16	1.39%
3	8,019.92	75.13	0.94%
4	11,253.02	114.11	1.01%
5	13,954.61	174.34	1.25%
6	18,066.68	742.68	4.11%
7	23,791.43	1,815.01	7.63%
8	31,560.35	4,253.31	13.48%
9	44,834.91	10,301.09	22.98%
Top	83,653.89	28,505.59	34.08%
Mean annual	**23,698.74**	**4,601.81**	**19.42%**
Mean weekly	**454.17**	**88.19**	**19.42%**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

Notes: Data is for individual income earners aged more than 17 years.
Approximately 350,000 in the bottom individual decile record zero gross income.
The anomaly between the gross income of the bottom decile and the reported tax paid is likely explained by factors including the delayed structure of self-employed tax return and small liabilities being paid in 2011 based on previous underestimates of income.

As a robustness comparison, the data in table 6 can be examined next to the estimates from the Revenue Commissioners of the effective tax rates of tax cases – see table A6 in the appendix. Revenue data is for tax cases, rather than individuals, and as previous mentioned, the appropriate tax assessment structure for an individual depends on their household circumstances and the income of others, if any, within that household. Comparing the 2011 SILC findings with the Revenue projections for 2012 shows much similarity. According to Revenue,

the effective tax rate for those between €40,000 and €80,000 is 22.60% and for those over €80,001 is 33.65% - similar to the numbers in table 6 for the top two individual deciles.

Overall, the data in tables 4 and 6 reflect the potential for additional contributions from income taxes from households across the income distribution. In time, via increases in social insurance and income taxes, this is likely to be a source of additional tax revenue for government – flowing from almost all households and individuals bar those on the lowest of incomes. Achieving any such changes will be a challenging public policy pathway in the years to come. In the short-term, the severity of the recent recession and its impact on household incomes across the board has been large and has significantly altered living standards. In that context, the options for increased taxation from across the income distribution are likely to have narrowed with the primary potential being with those at the top of the income distribution. Consequently, the remainder of this paper focuses on this group.

Income Taxation Options – high earners

This section explores the potential and possible options for raising additional taxation revenue from those at the top of the income distribution. Initially we examine the scale of revenue that could be achieved from small increases in the effective taxation rates of households. Subsequently, the paper explores a number of policy options which could contribute to achieving this additional revenue.

Simulation of increased effective tax rates

Tables 7 and 8 report the results of a series of scenario simulations of higher effective taxation rates. The scenarios have been chosen to illustrate the potential and policy options that are available to Government in a budgetary context. Initially table 7 reports the results for four scenarios each representing increases of 0.5%, 1%, 1.5% and 2% in household's effective tax rates. The first two scenarios exclusively focus on the top 10% of households; those with gross income in excess of €109,000 (see Table 3). Scenario 3 extends the increases to all households above €80,000 (the top two deciles) while scenario 4 pushes down to the 7th decile and simulates a progressive increase for all households earning a gross income of more than €62,000 – the top 30% of households in the state. Each of the simulations are on a *ceteris paribus* basis; assuming no behavioural change on foot of the taxation increase.

The tables also report the overall, annual and weekly additional taxes that would be raised. For example, a total of €530m in additional exchequer taxation income could be raised via a 2% increase in the effective taxation rate of the top decile (scenario 2). This would increase that decile's effective tax rate from 25.64% to 27.64% (see table 4) raising on average €3,180 per annum from each top decile household a sum equivalent to just over €60 in additional income taxes per week. These household figures are average increases and depending on the design of the taxation reforms (see next subsection) it would be possible to implement a progressive increase across the top decile so that, for example, households on a gross income of €200,000 experience a greater increase than those on €110,000.

Table 7: Scenarios for increases in Effective Tax Rates and Total Tax and Social Insurance Revenues among top household income deciles

Scenario		Overall Increase in Tax and SI revenue	Annual Amount per household	Weekly Amount per household
1.	1% increase for top decile	***€260m***	€1,590	€30
2.	2% increase for top decile	***€530m***	€3,180	€61
3.	1% increase for 9th decile	€155m	€930	€18
	2% increase for top decile	€530m	€3,180	€61
	Total Scenario 3	***€680m***		
4.	0.5% increase from 8th decile	€58m	€350	€7
	1% increase for 9th decile	€155m	€930	€18
	1.5% increase for top decile	€395m	€2,385	€46
	Total Scenario 4	***€610m***		

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.
Note: Calculations have been rounded.

Table 8: Scenarios for increases in Effective Tax Rates and Total Tax and Social Insurance Revenues among top household income deciles – round additional revenue amounts

Scenario		Overall Increase in Tax and SI revenue	Annual Amount per household	Weekly Amount per household
5.	0.95% increase for top decile	***€250m***	€1,510	€29
6.	1.5% increase for top decile	***€400m***	€2,385	€46
7.	1.9% increase for top decile	***€500m***	€3,020	€58
8.	2.3% increase for top decile*	***€600m***	€3,650	€70
9.	1.05% increase for 9th decile	€163m	€980	€19
	2.05% increase for top decile	€541m	€3,260	€62
	Total Scenario 9	***€700m***		
10.	0.5% increase from 8th decile	€58m	€351	€7
	1.1% increase for 9th decile	€170m	€1,025	€20
	1.8% increase for top decile	€475m	€2,850	€55
	Total Scenario 10	***€700m***		

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.
Notes: Calculations have been rounded.
*This scenario has been cited in the NERI Summer 2013 QEO (NERI, 2013).

Table 8 reports the results for 6 other scenarios designed to highlight what scale of effective tax rate increases would be required from higher income households to achieve 'round number' additional taxation revenue amounts. These range from an increase of €250m to €700m. Scenario 8 examines the revenue from a 2.3% increase in the effective tax rate of the top decile – providing an additional €600m in exchequer revenue. This increase, which has been cited in the NERI's Summer 2013 Quarterly Economic Observer proposal for an alternative taxation orientated budget adjustment (2013: 27-45), would increase that decile's effective tax rate to almost 28% raising on average €3,650 per annum from each top decile household a sum equivalent to €70 in additional income taxes per week.

Some policy options for raising additional tax revenue from high earners

With the exception of setting a series of minimum effective tax rates (see *iv* below), the achievement of the aforementioned increases in taxation revenue could best be achieved via reforms to existing structures within the taxation system. Four such options are explored next:

(i) USC rates on all earners over €100,000
(ii) Withdrawing tax credits from high earners
(iii) Reforming tax expenditures
(iv) Minimum effective tax rates for high earners

(i) USC rates on all earners over €100,000

The Universal Social Charge (USC) was introduced in Budget 2011 replacing the income and health levies. The tax is structured so that it falls on a very broad tax base and it possesses limited exemptions; unlike income tax and PRSI. The current standard rates of the Universal Social Charge apply to all income once an individual has earnings in excess of €10,036 and are: 2% on the first €10,036; 4% on the next €5,980; and 7% on the balance.

Self-employed taxpayers face the same standard rates except on incomes above €100,000. In this case, a 3% surcharge applies to income above €100,000 giving a USC rate of 10% (7% + 3% surcharge). The surcharge was introduced in the aftermath of Budget 2011 to address an anomaly where self-employed earners over €200,000 would have experienced a tax reduction following the USC's introduction.[10] The surcharge was introduced as a transitional measure and is due to terminate by the end of 2014 (Department of Finance, 2011:43).

The current situation implies two things. First, there is an inequity between earners at the top of the income distribution with the self-employed earning over €100,000 paying higher taxes on their income than that which applies to all other earners with income above €100,000. Second,

[10] Budget 2011's introduction of the USC reduced the top marginal tax rates for PAYE and self-employed earners by 4%. This occurred as the marginal tax rates for the income and health levies was 6% and 5% respectively. However, the simultaneous abolition of the PRSI ceiling restored the top marginal rate for PAYE earners to 52%. As there was no PRSI ceiling for the self-employed their marginal rate reduced at 51%. Unaddressed, this would have had the effect of giving a tax reduction to self-employed earners over €200,000. In response the self-employment rate of PRSI was increased from 3% to 4% and a surcharge was introduced for self-employment income in excess of €100,000. This restored the self-employed marginal tax rate to 55% (41% income tax, 4% PRSI, 7% USC and 3% USC surcharge).

there is a tax-cut due to self-employed earners of more than €100,000 at the end of 2014 (due in Budget 2015).

As neither a persistent inequity nor a high-income only tax cut are sustainable situations, policy could address these issues through a reform of the USC structure. Table 9 reports the results of a simulation of the expansion of the USC surcharge to cover all income above €100,000. Based on the analysis, from the NERI microeconomic model, there would be a revenue gain of €69 million from this change. The reform would only impact on those non self-employed earners among the 50,963 individuals with incomes above €100,000.

Table 9: Simulation of an expansion of the 3% USC surcharge on all non-surcharged income above €100,000

Numbers of taxpayers with:	
Taxable income > €100,000	50,963
Self Employed income > €100,000*	6,027
Taxable income above €100,000 not subject to USC surcharge	
Employee income	€1,932m
Other income sources**	€368m
Policy Simulation	
USC 3% surcharge on all non-surcharged income > €100,000	**€69.02m**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

Notes: Calculations have been rounded.
* These have been included in the total of 50,963 individuals.
** Other income sources include income from private pensions, rent, investment income and income from children, trusts and gifts.

Responses to two parliamentary questions on taxation options associated with the USC have quantified the additional revenue which would arise from a 3% increase to the USC for all income, including self-employment income, above €100,000. According to Revenue Commissioners estimates, this would raise €201 million - €71 million from PAYE earners and €130 million from the self-employed.[11] However, while this would raise additional revenue it would increase headline marginal tax rates to 58% for the self-employed on income over €100,000 and leave unaddressed the aforementioned unsustainable inequity in the tax treatment of income above €100,000.

(ii) Withdrawing tax credits from high earners

A paper by Collins (2013a) examined the potential to reform the current structure of tax credits so that the personal tax credit is gradually withdrawn, or recaptured, from high income earners and entirely eliminated for those with incomes above €100,000. The paper built on a proposal

[11] Parliamentary Question 55803/12 and 57516/12 (Oireachtas, December 2012).

by Collins and Walsh (2010, 2011) in their reviews of the Irish tax expenditure system. The reform focused on approximately the top 100,000 income earning individuals.

The examination modelled the recapture of the personal tax credit from all earners above €100,000. However, it is not appropriate to just remove the credit from that income level upwards as it would create a spike in nominal tax bills at that point; an individual earning €99,999 would pay €1,650 less in taxes than a person earning €1 more. Consequently, to limit any distortionary effect, the paper proposed a structure so that the personal tax credit is withdrawn over an income range from €83,000 upwards, at a rate of €50 per €1,000 between €83,000 and €84,000 and €100 per €1,000 from there to €100,000. Such a structure limits the distortionary effect of the tax credit removal and mitigates against any negative labour market participation effects which might arise from its implementation.

Table 10: Estimate of the Additional Taxation Revenue Arising from Policy Change

Taxable Income Range		Number of Individuals	Tax Credit Reduction €	Revenue
From €	To €			
0	**83,000**	4,387,080	0	€0.00m
83,000	**84,000**	3,615	50	€0.18m
84,000	**85,000**	2,948	150	€0.44m
85,000	**86,000**	3,173	250	€0.79m
86,000	**87,000**	3,899	350	€1.36m
87,000	**88,000**	5,644	450	€2.54m
88,000	**89,000**	2,677	550	€1.47m
89,000	**90,000**	2,414	650	€1.57m
90,000	**91,000**	974	750	€0.73m
91,000	**92,000**	3,979	850	€3.38m
92,000	**93,000**	2,182	950	€2.07m
93,000	**94,000**	2,848	1,050	€2.99m
94,000	**95,000**	1,064	1,150	€1.22m
95,000	**96,000**	4,222	1,250	€5.28m
96,000	**97,000**	2,912	1,350	€3.93m
97,000	**98,000**	786	1,450	€1.14m
98,000	**99,000**	953	1,550	€1.48m
99,000	**100,000**	584	1,650	€0.96m
100,000 +		50,963	1,650	€84.09m
Total		**4,490,000**		**€115.64m**
			From income between €83,000-€100,000	**€31.55m**
			From income in excess of €100,000	**€84.09m**

Source: This is a reproduction of table 6 in Collins (2013a:12).
Note: Estimate calculated using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

To estimate the potential additional taxation revenue which would be collected by the exchequer from this policy change, the aforementioned NERI microeconomic model was used. Table 10 outlines the results of that analysis. It reports that there are approximately 51,000 individuals with a taxable income in excess of €100,000 and approximately 45,000 individuals with an income between €83,000 and €100,000. Collectively, the policy change would yield additional taxation revenue of €115.6m per annum, comprising €84m from those with incomes above €100,000 and €31.5m from those who would experience a partial withdrawal of the tax credit.[12]

An impact analysis of the policy demonstrates increases in the effective taxation rates for all individuals who earn above €83,000. Those with incomes in excess of €100,000 see the full value of the personal tax credit (€1,650 in 2013) eliminated. The phased withdrawal of the credit from €83,000 upwards alongside the focus of the policy on tax credits, rather than bands or rates, means that the change has limited distortionary effect on marginal labour market participation decisions. In all cases there are no changes to the headline marginal tax rates faced by taxpayers.[13]

The paper also discusses the processes by which the reform could be implemented given the current system of tax credits.

(iii) Reforming tax expenditures

Tax expenditures, also known as tax incentives or tax breaks, are formal methods by which taxpayers, individuals or companies, can reduce their tax liability below that which would otherwise apply. As Collins and Walsh note, they also represent "a method for Government to reduce its current tax take, perhaps (and ideally) for specified reasons, below what it would otherwise collect" (2010:1). In all cases, they represent policy choices for Government, in introducing, altering or extending the measures.

Ireland's tax expenditures represent a mixture of tax reductions principally aimed at incentivising employment, incentivising saving, addressing structural issues in the tax system, accommodating investment and depreciation, encouraging specified business activity, encouraging charitable giving, and offsetting certain taxpayer expenditure costs.[14] While there has been significant reform to this area since the report of the Commission on Taxation (2009), it remains a large source of forgone tax revenue (or implicit expenditure) for the exchequer; one with limited systematic evaluation and analysis.

[12] Given the challenges of representative sampling amount high-earners, the paper notes that the revenue from this reform is likely to be between €115-130 million per annum (Collins, 2013a: 12-13).
[13] Collins (2013a) includes a more detailed assessment of the proposal and its impact on incomes.
[14] Collins and Walsh (2010) provide a more formal typology across ten areas where they classify all the tax expenditures and tax relieving measures examined by the 2008-09 Commission on Taxation.

Table 11: Top 30 Tax Expenditures in the 2010 Tax Year – revenue forgone terms

Tax Expenditure	Cost €m	No. Availing
Employee (PAYE) Credit	2,968.6	1,522,800
Married Person's Credit	2,619.7	821,300
Total Capital Allowances	2,262.0	290,000
Single Person's Credit	1,956.3	1,238,400
Exemption of Investment Income and Gains of Approved Superannuation Funds	835.0	n/a
Medical Insurance Premiums	697.9	1,268,400
Double Taxation Relief	677.0	19,500
Exemption of Irish Government Securities where owner not ordinarily resident in Ireland	660.8	n/a
Employees' Contributions To Approved Superannuation Schemes	598.5	625,100
Exemption of employers' contributions from employee BIK	515.0	302,900
Group Relief	408.8	2,503
Effective Rate of 10% for Manufacturing and Certain Other Activities	403.2	1,180
Exemption From Tax of Certain Social Welfare Payments: Child benefit	385.8	399,000
Interest paid: Loans relating to Principal Private Residence	374.6	490,900
Research & Development Tax Credit	223.7	1,172
Exemption of Statutory Redundancy Payments	214.3	58,700
Retirement Annuity Premiums	180.1	82,200
Widowed Person's Credit	178.7	78,600
Additional Personal Credit for Lone Parent	141.9	95,500
Employers' Contributions To Approved Superannuation Schemes	141.0	302,900
Tax Relief on "tax free" lump sums	136.0	n/a
Health Expenses	126.6	367,600
Age Exemption including child additions	92.1	63,500
Rent Paid in Private Tenancies	82.8	189,000
Personal Retirement Savings Accounts	73.0	52,300
Homecarer Credit	67.8	82,100
Expenses Allowable to Employees under Schedule E	66.5	695,000
Investment in Films	65.4	3,892
Donations to Approved Bodies	51.1	146,800
Exemption of Interest on Savings Certificates, National Instalment Savings & Index Linked Savings Bonds	48.7	n/a

Source: Compiled from Revenue Statistical Report 2011 (2012: 17-24)
Notes: The Revenue Commissioners provide a detailed set of notes to accompany the figures and estimates they include in their report. These provide further details on the figures above. See Revenue Commissioners (2012: 17-24).
n/a = not available

The most recent Revenue Commissioners Statistical Report (2012), covering the tax year 2010, details many of the tax expenditures for which cost (revenue forgone) data is available. The report also lists those where no data is available – these are mainly small tax expenditures (2012:24). The top 30 tax expenditures, involving revenue forgone of over €17 billion in 2010, are outlined in table 11. The table does not include the legacy costs of various tax incentives, including property based incentives, which although abolished in a previous Budget continue to incur exchequer costs given their structure. These legacy reliefs involve tax expenditure of €386

million in 2010 and their composition is listed in table A7 of the appendix. In the case of the property based tax incentives (approximately €330m in 2010), their multi-annual capital relief structure ensure they will incur costs for a number of years to come. While there has been some attempt to speed-up the phasing out of these reliefs, and reduce the overall exchequer cost, over time that initiative has been scaled back by the Government.[15]

Table 12: Cost of Discretionary Tax Reliefs and Savings if they were standardised, 2009 tax year basis

Tax Expenditure	Cost €m	Saving if Standard Rated
Capital Allowances (Income Tax only)	1,004.9	395.9
Employees' Contributions To Approved Superannuation Schemes	729.0	345.2
Retirement Annuity Premiums	237.2	105.6
Personal Retirement Savings Accounts	77.0	26.5
Expenses Allowable to Employees under Schedule E	73.7	27.4
Donations to Approved Bodies (Income Tax only)*	51.11	19.8
Rented Residential Relief -Section 23	46.9	24.0
Investment in Films**	42.0	25.6
Interest paid relating to borrowings for purposes such as acquiring an interest in a company or partnership or to pay death duties	26.5	11.6
Investment in Corporate Trades (BES)**	25.6	13.1
Health Expenses (Nursing Homes)	23.1	6.1
Person Taking Care of Incapacitated Taxpayer	5.9	2.4
Relief for expenditure on significant buildings and gardens	4.6	2.2
Contributions Under Permanent Health Benefit Schemes, after Deduction of Tax on Benefits Received	3.9	1.6
Investment in Seed Capital	2.9	1.2
Stock Relief	2.0	0.6
Donation of Heritage items	0.7	0.6
Donations to Sports Bodies (Income Tax only).	0.6	0.2
Revenue Job Assist allowance***	0.3	0.0
Retirement Relief for certain Sports Persons.	0.2	0.1
Allowance for seafarers	0.2	0.0
Donation of Heritage property to the Irish Heritage Trust	0.0	0.0
Total	**2,358.30**	**1,009.70**

Source: Parliamentary Question 20064/13 (Oireachtas, April 2013).

Notes: Parliamentary Question 7355/13 also provided a list, but no cost figures, for tax expenditures available at the marginal rate (Oireachtas, February 2013).
* Tax expenditure has since been reformed and made available at a single rate to all taxpayers.
** Tax expenditure has been reformed since 2009.
*** Tax expenditure has been abolished since 2009.

[15] Policy has tended to focus on those claiming large amounts of tax relief under these measures with section 3 of the Finance Act 2012 introducing a surcharge of 5% on income sheltered by property reliefs for taxpayers with an aggregate income of €100,000 or above.

Among the tax expenditures some, though a reducing number, are available at the marginal rate of tax for a taxpayer. In 2013 single workers have a marginal tax rate of 52% from approximately €33,000 and above, couples with one earner from approximately €42,000 and above and couples with 2 earners from approximately €66,000 and above.[16] A parliamentary question answered in April 2013 provides a list of the tax expenditures available at the marginal income tax rate for the tax year 2009 alongside an estimate of the exchequer saving that would arise from standardisation. Revenue's estimates do not take account of any behavioural changes which might occur if the rate of relief was altered; such changes are probable for many of the schemes.[17] As table 12 shows, the saving to the exchequer from standardisation would be of the order of €1,000 million.

Tax expenditures associated with private pensions represent a large part of the suite of tax expenditures in the Irish income tax system. Table 13 brings these together for the 2010 tax year suggesting a total tax forgone of almost €2.5 billion. Compared to calculations in the 2007 *Green Paper on Pensions* the data excludes the cost of PRSI relief on employer contributions and the estimated tax yield from the payment of pension benefits (Department of Social and Family Affairs, 2007:106). Taken together this would be likely to decrease the net cost.[18]

Table 13: Pension Related Tax Reliefs, 2010

Tax Expenditure	Cost €m	No. Availing
Exemption of Investment Income and Gains of Approved Superannuation Funds	835.0	n/a
Employees' Contributions To Approved Superannuation Schemes	598.5	625,100
Exemption of employers' contributions from employee BIK	515.0	302,900
Retirement Annuity Premiums	180.1	82,200
Employers' Contributions To Approved Superannuation Schemes	141.0	302,900
Tax Relief on "tax free" lump sums	136.0	n/a
Personal Retirement Savings Accounts	73.0	52,300
Total	**2,478.6**	

Source: Compiled from Revenue Statistical Report 2011 (2012: 17-24)

Notes: The Revenue Commissioners provide a detailed set of notes to accompany the figures and estimates they include in their report. These provide further details on the figures above. See Revenue Commissioners (2012: 17-24).
n/a = not available
The data excludes the cost of PRSI relief on contributions made by employers to their employees' pensions. This expenditure is a social insurance tax expenditure and is not reported by the Revenue Commissioners.

[16] See Collins (2013a:4-8) for a more detailed assessment of marginal tax rates facing various individual/household types.
[17] The probability of a reduction in the numbers availing of a tax expenditure, or the volume of income being offset against it, does not imply such a policy would be inappropriate. Such judgements should be made in the context of the objectives of the policy and the success or otherwise of a reformed tax expenditure in meeting those objectives.
[18] The 2006 Green Paper estimates included PRSI and health levy employee and employer relief of €220m. Since then the employee PRSI and USC relief has been removed. The Green Paper also estimated the pension benefit tax yield at €320m, a figure which is likely to have remained stable or increased marginally since then. Taken together this would imply a decrease in the net tax relief cost from the €2.5 billion in table 13.

A comparison of the data in tables 12 (for 2009) and 13 (for 2010) shows a fall in employee pension contributions of 18% reflecting the effect of the recession on the number of employees and the level of pension savings. Although there are benefits to the tax system from tax liabilities on the taxable elements of pensions when they are been drawn down (excluding tax free lump sums and liabilities offset by various tax credits), the cost of the system remains high and implies obvious questions regarding its effectiveness in achieving the pension systems objectives as set out in the 2007 Green Paper. Taking the annual cost of the Department of Social Protection's old age pensions, of €6.3 billion in 2012, an extra €2 billion of direct expenditure on those pensions could finance a 30% increase in pensions so that the contributory old age pension would reach €300 per week (€230.30 + €70).

Aside from pensions, many of the other tax expenditures are, given their nature, availed of more frequently by high earners. Given their tax forgone cost, tax expenditure reform offers the potential to increase taxation revenues from higher income households. Already, limits on the size of pensions and reforms of the high-earner restriction have begun to achieve this. Similarly, company focused expenditures, such as capital allowances, also suggest room for reform given their cost and structure.[19] Across the system, there remains potential for further reform and the establishment of a more robust evaluation process for tax expenditures which examines their introduction, reform and expansion.[20]

(iv) Minimum Effective rates for high earners

Throughout the decade from 1995-2005 the number and range of discretionary tax expenditures available to taxpayers expanded significantly.[21] The scale and range of these provisions made it possible for high earners to reduce their tax liabilities well below benchmark effective tax rates, with some almost eliminating any tax liability. Budget 2006 commenced a process of addressing this over-use of tax expenditures by introducing a provision in the tax code known as the high earners restriction. The restriction came into effect from the start of 2007.

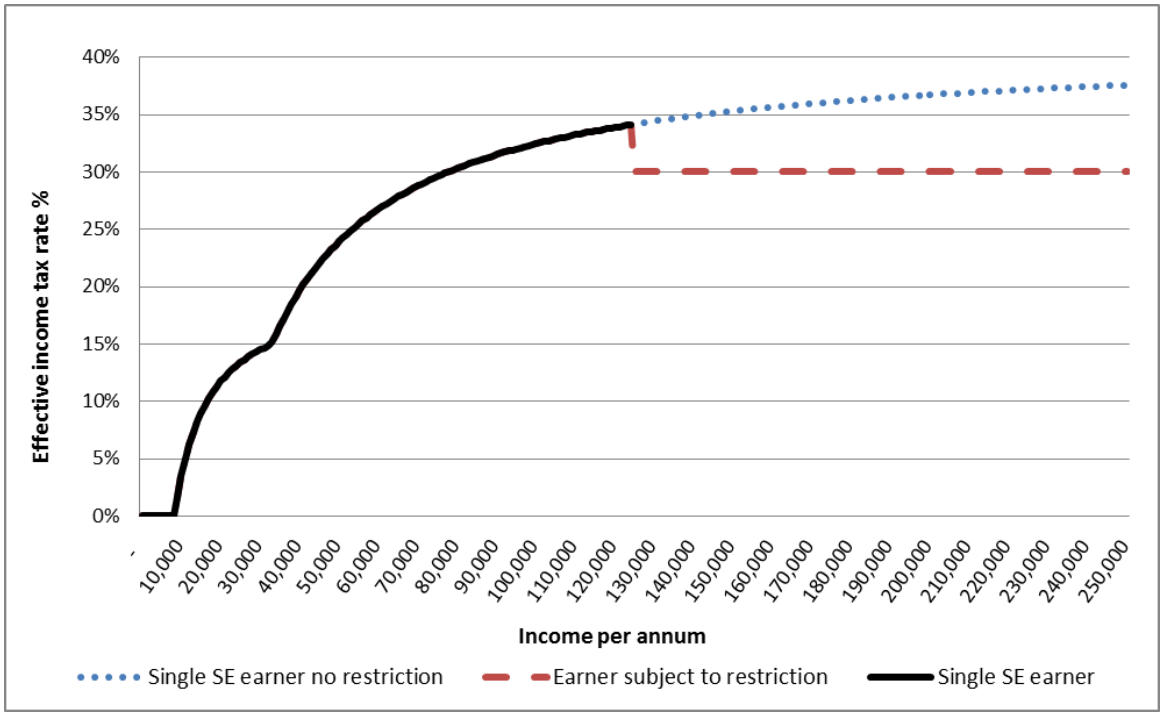
The restriction works by limiting the total amount of tax expenditure that a high earner can use to reduce their tax liability in any one tax year. Not all tax expenditures are restricted in their use, only those specified by various Finance Bills. Initially, the restriction was introduced for individuals with income in excess of €500,000 and ensured these have an effective income tax rate of approximately 20% on that income. High-earners between €250,000-€500,000 were subject to a tapering system with the effective rate increasing towards 20% as income increased towards €500,000. Subsequently, Budget 2010 and the Finance Act 2010 (Department of Finance, 2009 and 2010) altered the restriction reflecting a Programme for Government commitment to ensure a minimum effective income tax rate of 30% for very high earners (Fine Gael and Labour, 2011). The restriction is currently structured so that those individuals with an

[19] See NERI (2013: 43) for more on the reform of capital allowances.
[20] Both the Commission on Taxation (2009) and Collins and Walsh (2010, 2011) provide an outline of the structure of such an evaluation process.
[21] See chapter 8 of the 2009 Commission on Taxation report for the first published list of all these measures.

income exceeding €400,000 experience this minimum effective income tax rate and the restriction and its taper commence at €125,000 and where an individual claims more than €80,000 in tax expenditures specified under the measure. The tapering system aims to ensure that high-earners above €125,000 and availing of these tax expenditures pay a minimum effective income tax rate of 30%. The minimum rate does not include liabilities for PRSI and USC which are paid on top of the minimum rate.

Figure 3 summarised the effect of the rate for one selected income taxpayer type – a single self-employed taxpayer. Without the restriction in place, taxpayers would have a benchmark income tax rate/liability above 30% when income is in excess of €125,000. In practice, such high-earners avail of various tax breaks so their liability is reduced below the benchmark rate and in the past it was considerably below the minimum effective rate.

Figure 3: Comparison of Benchmark Effective Income Tax rates for a Single SE earner – with and without the high-earners restriction



Notes: Benchmark effective tax rates are calculated exclusive of any tax expenditures bar the personal tax credit.
The graph presents effective income tax rates and excludes PRSI and USC payments as the high earners restriction concentrates on income taxes only (i.e rates, bands and tax credits).

In the context of identifying possible additional tax revenues from high-earners, four options arise regarding this provision:

(a) The minimum income tax rate could be increased from 30% to a higher level. Bar an increase in income tax rates, or changes to income tax credits, there is some, but not a lot, of room for such an increase. The gap between the benchmark rate and the lower minimum rate in figure 3 demonstrates this space for an individually assessed self-employed tax payer. However, if some incentives are to be retained for individuals to

avail of tax expenditures, for whatever public policy reason, such incentives would necessitate the possibility of a minimum effective rate below the benchmark rate.

(b) The minimum income tax rate could be increased from 30% to a higher level where that level is progressive, i.e. the minimum rate increases with income increases. Currently, an individually assessed self-employed tax payer can reduce their income tax liability from the benchmark rate by 4.2% where their income is €125,000 and 7.6% when their income is €250,000. A reform to the structure of the high-earners restriction could address this difference and raise some additional tax revenue.[22]

(c) A lower entry point for the high-earners restriction could be introduced. For example, commencing at €100,000 rather than €125,000 would bring additional 21,500 high-earners under the restriction and raise their effective income tax rates.[23] Taxation revenues would consequently increase.

(d) Budget 2014 and the subsequent Finance Bill could reform the structure of the high-earner restriction to include all discretionary tax expenditures. Currently, a number are excluded, most particularly pension reliefs. As outlined earlier, the pension tax relief represents a large component of the total cost of tax expenditures. For example, a 55 year old with a gross income of €150,000 who is putting €30,000 into a private pension is not subject to the high-earners restriction (€150,000-€30,000 = €120,000: less than the restriction threshold). Counting all tax reliefs would be a fairer structure and would provide additional exchequer revenue.

Implementing some, or all of these reforms, offers the prospect of broadening the scope and numbers covered by the high-earners restriction. Estimating the precise scale of additional revenue is challenging, particularly given the exemption of pension contributions from the calculation of 'adjusted income' to which the restriction is applied. However, were all those individual earners with taxable income over €125,000 subject to an average increase of €2,000 in tax payable, the *cetris paribus* exchequer revenue increase would be approximately €60 million. A similar average increase across a more broadly defined high-earners group comprising all those with taxable income above €100,000 would yield additional revenue of approximately €100 million.

CONCLUSION

Budget 2014's fiscal adjustment remains a domestic choice between taxation increases and expenditure reductions. Its scale is cushioned by existing savings from the restructuring of the former Anglo Irish Bank promissory notes, the restructuring of Ireland's debt refinancing

[22] The lack of detailed data on the number of high-earners above €125,000 limits the possibility of estimating the revenue yield from this measure.
[23] Table 10 reports the number of individual taxpayers with income in excess of €100,000 as 50,963. Analysis using the NERI microeconomic model suggests this decomposed into 21,594 individuals in the range €100,000-€125,000 and 29,369 individuals above €125,000.

timetable, agreed public sector wage related expenditure savings and revenue carry-overs from policies announced in Budget 2013. However, despite all of this, there remains the need for a sizeable adjustment, one driven by the scale of the budget deficit.

This paper focuses on the policy choices associated with one element of these choices, that associated with the raising of additional tax revenue from income taxes. While recent Budgets have introduced a number of tax base-broadening measures, income taxation remain the largest area of exchequer income and consequently a key focus for policy decisions.

The papers assessment of household and individual effective taxation levels suggests that in the years to come there remains potential for additional income taxation revenue across a large portion of the income distribution. In time, via increases in social insurance and income taxes, achieving any such increases will be a challenging public policy pathway. In the short-term, the severity of the recent recession and its impact on household incomes across the board has been large and has significantly altered living standards. In that context, the options for increased taxation from across the income distribution are likely to have narrowed with the primary potential being with those at the top of the income distribution.

Focusing on the highest income households and individuals the paper demonstrates that options are available to Government for additional revenue generation. While no choices regarding tax increases are simple, or likely to be free from behavioural implications, the options assessed point towards feasible source of revenue open to policy makers as they frame the forthcoming fiscal adjustment.

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APPENDIX

Table A1: Summary of the Distribution of Tax Cases by Gross Income - Revenue Commissioners, 2010-2012

Gross Income Range €	2010	2011	2012
0 -75,000	1,886,867	1,955,039	1,947,402
75,001-100,000	102,146	104,238	104,875
100,001+	99,430	103,351	104,552
Total cases	**2,088,443**	**2,162,628**	**2,156,829**

Sources: Revenue Commissioners (2012) and Parliamentary Question reply 14th May 2013
Notes: Data is for tax cases rather than individuals. Tax cases may comprise one individual or two individuals jointly assessed. Revenue Commissioners do not provide a method for distinguishing between tax cases of different sizes.

Table A2: Direct, Gross and Disposable Household Income by Gross Income Decile, 2011.

Decile	1	2	3	4	5	6	7	8	9	10	State
Weekly gross income threshold (€)	**<253.47**	**351.92**	**473.96**	**594.32**	**741.73**	**923.72**	**1190.19**	**1533.52**	**<2088.87**	**>2088.87**	
Direct income											
Employee income	11.21	11.52	46.50	115.70	214.47	374.78	608.46	865.26	1,289.80	2,181.64	571.72
Employers SI contributions	0.36	0.47	3.96	10.21	18.97	38.60	60.16	94.43	139.77	257.93	62.46
Cash benefits or losses from self emp.	8.82	18.21	22.87	32.60	31.84	54.06	61.42	109.55	134.28	284.28	75.77
Other direct income	3.53	3.69	9.31	11.33	14.20	18.30	15.83	24.13	28.24	58.96	18.75
Total direct income (a)	**23.93**	**33.89**	**82.64**	**169.83**	**279.48**	**485.74**	**745.88**	**1,093.37**	**1,592.08**	**2,782.81**	**728.69**
Social Transfers											
Unemployment Benefit	44.05	23.39	76.46	78.76	97.41	83.72	60.67	63.13	45.28	48.78	62.16
Old-age related payments	33.40	132.62	98.48	116.38	72.01	56.41	49.35	26.51	17.81	56.79	65.99
Occupational pension	1.93	10.32	18.95	33.60	50.64	71.56	87.38	75.95	51.35	105.52	50.71
Family/children related allowances	16.05	43.72	70.29	72.74	87.42	77.93	68.18	45.27	47.86	40.49	57.00
Housing allowances	12.49	24.76	22.86	21.48	15.20	10.59	7.82	4.04	1.73	0.37	12.14
Other social transfers	34.43	24.86	50.96	40.99	64.68	43.19	37.43	39.89	31.50	12.73	38.06
Total social transfers (b)	**142.34**	**259.67**	**338.00**	**363.94**	**387.36**	**343.40**	**310.83**	**254.79**	**195.52**	**264.68**	**286.06**
Gross income (a+b)	**166.27**	**293.55**	**420.64**	**533.77**	**666.83**	**829.14**	**1,056.71**	**1,348.16**	**1,787.61**	**3,047.49**	**1,014.75**
Tax and social contributions											
Tax on income and social contributions	0.35	0.54	2.78	9.27	18.79	48.97	103.91	178.92	320.81	781.29	146.50
Employers SI contributions	0.36	0.47	3.96	10.21	18.97	38.60	60.16	94.43	139.77	257.93	62.46
Regular inter-hhold cash transfers paid	0.86	0.40	1.63	2.06	2.56	5.57	2.75	6.86	4.73	16.13	4.35
Total tax and social contributions (c)	**1.57**	**1.40**	**8.37**	**21.53**	**40.32**	**93.14**	**166.82**	**280.22**	**465.31**	**1,055.35**	**213.31**
Net Disposable Income (a+b-c)	**164.70**	**292.15**	**412.27**	**512.24**	**626.51**	**735.99**	**889.89**	**1,067.94**	**1,322.30**	**1,992.14**	**801.43**

Source: Calculated by author from SILC 2011 microdata.
Note: Data is unequivalised income

Table A3: Gross Income, Income Tax Paid and Effective Tax Rates, by household 5% group 2011

5% Groups	Annual Gross Income €	Annual Tax and SI paid €	Effective Tax Rate %
Bottom 5%	5,534.98	16.64	0.30%
2	11,816.32	19.91	0.17%
3	14,028.84	- 4.22	-0.03%
4	16,665.56	62.13	0.37%
5	20,372.00	18.39	0.09%
6	23,531.98	272.16	1.16%
7	26,266.40	376.21	1.43%
8	29,445.14	591.30	2.01%
9	32,959.22	797.64	2.42%
10	36,620.20	1,162.07	3.17%
11	40,816.12	1,734.58	4.25%
12	45,712.83	3,376.50	7.39%
13	51,836.23	4,429.27	8.54%
14	58,423.46	6,409.36	10.97%
15	65,787.04	8,129.46	12.36%
16	74,886.79	10,537.60	14.07%
17	86,090.15	14,160.53	16.45%
18	100,446.00	19,312.54	19.23%
19	122,885.50	27,748.44	22.58%
Top 5%	197,403.50	54,598.40	27.66%
Mean annual	**52,949.46**	**7,644.31**	**14.44%**
Mean weekly	**1,014.75**	**146.50**	**14.44%**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.

Table A4: Average Effective Tax Rates for varying definitions of gross income

Decile	Average Effective Tax – all Gross Income %	Average Effective Tax – without employer social insurance %
Bottom	0.21%	0.21%
2	0.18%	0.18%
3	0.66%	0.67%
4	1.74%	1.77%
5	2.82%	2.89%
6	5.91%	6.15%
7	9.83%	10.36%
8	13.27%	14.10%
9	17.95%	19.14%
Top	25.64%	27.25%
Mean	**14.44%**	**15.17%**

Source: Calculated by author using NERI Microeconomic model and based on microdata from CSO's 2011 SILC survey.
Note: See text below

The data in the paper uses the formal definition of gross income as the basis for its calculations. This definition is as used by Eurostat and the Central Statistics Office (CSO). For an individual, gross income includes all income flowing to that person in the form of cash and non-cash earnings, self-employment income, pension income, investment income, social transfers, employer pension contributions, employer health/life insurance/assurance contributions and employers social contributions. A household's gross income is the sum of these individual income components for all household members.

Of these, it can be argued that employer's social contributions differ from the other sources in that, although it is an element of establishing an individual's entitlement to social insurance, the flow of income is implicit. The table above outlines the decile effective tax rates with and without it. The figures reflect the concentration of earnings towards the top of the income distribution and alter the effective tax rates by between 0.25% and 1.6% for households in the top five deciles.

Table A5: Baseline Effective Tax Rates for various individual/household types, 2013

	Single Person		Couple 1 income		Couple 2 incomes	
Income	**PAYE**	**SE**	**PAYE**	**SE**	**PAYE**	**SE**
15,000	2.7%	15.7%	2.7%	6.7%	0.0%	5.9%
20,000	11.1%	19.3%	7.6%	7.6%	1.6%	10.2%
30,000	17.7%	23.2%	9.5%	15.0%	5.6%	16.3%
40,000	24.8%	29.0%	14.9%	19.0%	9.8%	19.5%
50,000	30.3%	33.6%	21.6%	24.9%	13.6%	21.7%
60,000	33.9%	36.6%	26.6%	29.4%	17.7%	23.2%
70,000	36.5%	38.8%	30.3%	32.6%	20.9%	25.7%
80,000	38.4%	40.5%	33.0%	35.0%	24.8%	29.0%
90,000	39.9%	41.8%	35.1%	36.9%	27.8%	31.5%
100,000	41.1%	42.8%	36.8%	38.4%	30.3%	33.6%
110,000	42.1%	43.9%	38.2%	39.9%	32.2%	35.2%
120,000	42.9%	44.8%	39.3%	41.2%	33.8%	36.6%
130,000	43.6%	45.6%	40.3%	42.3%	35.3%	37.8%
140,000	44.2%	46.3%	41.1%	43.2%	36.5%	38.8%
150,000	44.8%	46.9%	41.9%	44.0%	37.5%	39.7%
160,000	45.2%	47.4%	42.5%	44.6%	38.4%	40.5%
170,000	45.6%	47.8%	43.0%	45.3%	39.2%	41.2%
180,000	46.0%	48.2%	43.5%	45.8%	39.9%	41.8%
190,000	46.3%	48.6%	44.0%	46.3%	40.5%	42.3%
200,000	46.6%	48.9%	44.4%	46.7%	41.4%	42.8%
210,000	46.8%	49.2%	44.8%	47.1%	41.6%	43.2%
220,000	47.1%	49.4%	45.1%	47.5%	42.1%	43.6%
230,000	47.3%	49.7%	45.4%	47.8%	42.5%	44.0%
240,000	47.5%	49.9%	45.7%	48.1%	42.9%	44.3%
250,000	47.7%	50.1%	45.9%	48.4%	43.3%	44.6%

Notes: Following Department of Finance Budget calculations, couples are assumed to have a 65%/35% income split.

Baseline effective or average tax rates are calculated as the combined income tax (post any credits), USC and PRSI as a percentage of gross income. They do not account for variations in income definitions (taxable v non-taxable), modified PRSI contributions from pre-1995 civil servants or taxpayers entitlements to tax expenditures which will reduce these figures.

Table A6: Summary of Revenue Commissioners Gross Income and Effective Tax Rate Data, 2012 (updated from base year 2009).

Income Range €	No of cases	Average annual Gross Income	Average annual Tax & SI paid	Effective Tax Rate
0-5,000	227,078	2,150	0	0.00%
5,001-10,000	167,528	7,483	42	0.56%
10,001-15000	184,558	12,530	313	2.50%
15,001-20,000	198,371	17,564	800	4.55%
20,001-30,000	386,339	24,823	2,421	9.75%
30,001-40,000	295,068	34,767	5,104	14.68%
40,001-50,000	206,874	44,634	8,604	19.28%
50,001-60,000	139,022	54,670	12,307	22.51%
60,001-70,000	95,641	64,712	15,863	24.51%
70,001-75,000	37,665	72,423	18,753	25.89%
75,001-80,000	31,778	77,424	20,833	26.91%
80,001-90,000	48,173	84,690	23,743	28.04%
90,001-100,000	33,515	94,728	27,947	29.50%
100,001-120,000	41,890	108,986	34,146	31.33%
120,001-140,000	23,114	129,078	42,968	33.29%
140,001-160,000	13,140	149,184	51,653	34.62%
160,001-180,000	8,029	169,289	59,994	35.44%
180,001-200,000	5,350	189,357	68,428	36.14%
200,001-250,000	8,071	221,991	81,583	36.75%
250,001-300,000	4,322	272,384	101,410	37.23%
300,001-350,000	2,631	323,288	120,941	37.41%
350,001-400,000	1,630	373,139	142,481	38.18%
400,001-450,000	1,161	423,585	160,515	37.89%
450,001-500,000	815	473,878	180,952	38.19%
500,001-750,000	2,030	600,239	230,068	38.33%
750,001-1,000,000	647	853,870	336,219	39.38%
1,000,001-2,000,000	537	1,305,854	483,454	37.02%
Over 2,000,000	120	8,612,150	3,743,607	43.47%
Total Cases	**2,165,097**			
Mean annual		**38,588**	**8,520**	**22.08%**
Mean weekly		**739.51**	**163.27**	**22.08%**
Summary groups				
0-15,000	579,164	7,000	112	1.60%
15,001-20,000	198,371	17,564	800	4.55%
20,001-30,000	386,339	24,823	2,421	9.75%
30,001-40,000	295,068	34,767	5,104	14.68%
40,001-80,000	510,980	55,210	12,479	22.60%
80,001+	195,175	143,192	48,187	33.65%

Source: Calculated from Revenue Commissioners PQ reply, 2012.

Notes: Data are for tax cases rather than individuals. Tax cases may comprise one individual or two individuals jointly assessed. Revenue Commissioners do not provide a method for distinguishing between tax cases of different sizes.
Summary groups have been chosen to approximate the individual decile groups in table 6.

Table A7: Legacy Tax Expenditure Costs in 2010 & the Cost of Property Reliefs since 2004

Tax Expenditure	Amount Claimed €m	Assumed Max Cost €m	No. of Claimants
Property Based Tax Expenditures 2010			
Hotels	263.7	103.2	1,927
Urban renewal	247.7	79.3	3,380
Rural Renewal	64.6	25.8	2,716
Student Accommodation	47.4	19.2	774
Nursing Homes	43.0	17.0	696
Qualifying Private Hospitals	40.9	16.7	524
Town Renewal	39.7	16.2	970
Exemption of profits or gains from Woodlands	38.0	14.9	4,361
Holiday Cottages	23.9	9.6	785
Buildings Used for certain childcare purposes	21.5	8.7	502
Seaside Resorts	11.7	4.6	677
Multi-storey car parks	9.5	3.8	95
Housing for the Elderly/infirm	6.1	2.5	172
Enterprise Areas	5.2	2.1	130
Qualifying sports injury clinics	4.8	2.0	97
Living Over the shop	2.9	1.2	66
Park and Ride	1.7	0.7	24
Convalescent Homes	1.1	0.4	32
Hostels	0.63	0.26	22
Caravan Camps	0.6	0.2	5
Mid-Shannon Corridor Tourism Infrastructure	0.5	0.2	4
Guest Houses	0.34	0.14	8
Qualifying Mental Health Centres	0.0	0.0	2
Totals	**875.5**	**328.7**	**17,969**
Other Tax Expenditures 2010			
Exempt Patents (Section 234, TCA 1997)	186.7	43.8	1,296
Other	33.9	13.3	580
Property Based Tax Expenditure Costs 2004-2010 €m			
Total cost in 2010 (above)		328.7	
Total cost in 2009*		341.6	
Total cost in 2008*		371.5	
Total cost in 2007*		435.8	
Total cost in 2006*		464.4	
Total cost in 2005*		383.5	
Total cost in 2004*		245.9	

Source: 2010 data from Revenue Commissioners Statistical Report 2011 (2012: 17-24). Other data from various Revenue Commissioners Statistical Reports.

Note: * Calculated from various Revenue Statistical Reports 2006-2011 and Collins and Walsh (2010:45)