TSG 15/08

Tax Strategy Group
Distributional Aspects of the Tax System

Introduction

1. This paper provides a short overview of the distributional impact of a number of possible tax measures and of a tax package similar to the one included in Budget 2015. Before presenting the results of the distributional analysis, the context for the analysis and the approach and key concepts used are set out below.

Context

2. The expected distributional impact of budgetary measures continues to be an important consideration in the formulation of budget policy. A number of Government departments (Finance, Public Expenditure & Reform, and Social Protection) carry out distributional analyses in the period leading up to the Budget. The distributional analysis in this paper forms part of the Government's undertaking regarding Social Impact Assessment with the aim of facilitating earlier consideration of distributional issues in the budgetary process.[1]

3. Given that the details of the budget package are unknown, it is not possible to directly examine its distributional impact at this stage. Neither is it feasible to present all the possible individual tax measure permutations which could be considered. As a result this paper presents the distributional impacts of: (a) a number of hypothetical tax measures; and (b) a hypothetical tax package, which can be informative as to the general implications were similar measures undertaken.

4. The differing goals of the budget – which include raising revenue, encouraging economic efficiency and addressing distributional concerns – mean that trade-offs are faced in balancing these different objectives. The main focus of this paper is on distributional issues but consideration of financial incentives to work also relates to economic efficiency.

5. Other issues which should be borne in mind when considering this paper include:

   - The importance of looking at Budgets and fiscal policy in the round, rather than at the level of each individual measure,
   - This paper only addresses tax measures and does not incorporate expenditure which performs the bulk of the redistributive function of the Irish tax and welfare system and
   - The extreme progressivity already present in the Irish income tax system (See TSG 15/02)

[1] In November 2014 as part of a motion before the Dáil, the Government undertook that'…a social impact assessment of the main taxation and welfare measures will be carried out …….. before the publishing of budgets."

Approach and Key Concepts

6. This paper makes use of the SWITCH (**S**imulating **W**elfare and **I**ncome **T**ax **CH**anges) micro-simulation tax-benefit model developed and operated by the Economic and Social Research Institute (ESRI). SWITCH uses household survey data on incomes and other tax and welfare relevant characteristics to simulate how households are affected by the rules of the current system and by proposed reforms. SWITCH has limitations, for instance including that it does not account for indirect taxes or expenditure on public services (such as health care) and it does not incorporate behavioural changes. The SWITCH model is updated biannually and the next release is due in September 2015. The simulations in this paper were performed using the early 2015 SWITCH version.

7. The distributional impacts in this paper are presented in terms of their impact on deciles within the income distribution. Deciles are formed by ranking households based on their disposable income and then dividing them into ten equally sized groups.

8. This ranking by decile is completed after households are 'equivalised'. Equivalisation involves adjusting household income on the basis of household size and composition. The SWITCH model uses a scale of 1 for the first adult, 0.66 for subsequent adults and 0.33 for children aged 14 or under. This means that the income of all households is expressed in terms of a single adult household. For instance, a single adult household with an actual income of 100 (100 ÷ 1 = 100) is considered to have the same equivalised income as a two adult household with an income of 166 (166 ÷ {1+0.66} =100).

9. There are a number of possible alternative scenarios or counterfactuals against which the budget can be compared. Three alternatives which can be used in particular when it comes to distributional analysis include a 'no change' comparison as well as scenarios where the taxation measures are assumed to have been indexed to either price inflation or wage growth. The results presented in the following sections are based on a 'no change' policy where all parameters and policies are kept at 2015 levels except those explicitly mentioned.

Distributional Analysis

10. In the interests of transparency and ease of comparison, the SWITCH simulations conducted here are on the basis of the modelled tax changes occurring in 2015 rather than 2016. This reflects the complication that SWITCH will be updated in September 2015 and at that stage assumptions about 2016 parameters, which could be made at present, will have changed. As such, the results do not account for wage growth in 2016 or any decision which may be made regarding the minimum wage[2]. Nonetheless the simulations can be considered to be highly representative of the impact of measures which could be introduced as part of Budget 2016.

[2] While the Low Pay Commission has recommended an increase in the minimum wage, it is not known whether this recommendation will be accepted nor is the timing of when any change to the minimum wage would take place clear.

11. The following table presents the results of simulations of five separate tax measures each estimated using SWITCH to cost approximately €500 million[3] as follows:
    - an increase in personal tax credits from €1650 to €1890.
    - a reduction in the 20% rate of income tax to 19%
    - a reduction in the 40% rate of income tax to 37.5%,
    - a reduction in the 7% rate of USC to 5.35% and
    - a reduction in the 8% rate of USC to 2.1%.

    These are the same changes in tax and USC as considered by the ESRI in their Budget Perspectives 2016 "Exploring Tax and Welfare Options" paper.

Table 1 Distributional Impact of Alternative Income Tax and USC Changes

	IT PTC €1650-> €1890	IT 20%-> 19%	IT 40%-> 37.5%	USC 7%-> 5.35%	USC 8%-> 2.1%
Decile	Percentage Change in Disposable Income (%)				
1 (<= €207.37)	0.3	0.1	0.0	0.0	0.0
2 (<= €257.56)	0.6	0.3	0.0	0.1	0.0
3 (<= €295.76)	0.3	0.2	0.0	0.1	0.0
4 (<= €350.69)	0.6	0.5	0.0	0.3	0.0
5 (<= €399.89)	0.8	0.7	0.1	0.4	0.0
6 (<= €448.1)	0.9	0.9	0.2	0.6	0.0
7 (<= €514.7)	0.8	0.9	0.2	0.7	0.1
8 (<= €621.99)	0.8	0.9	0.4	0.9	0.1
9 (<= €758.5)	0.7	0.9	0.7	1.0	0.2
10 (> €758.5)	0.4	0.6	2.2	0.9	2.8
All	0.7	0.7	0.7	0.7	0.7
Percentage of Households Gaining (%)	70.73	70.35	32.68	52.59	8.60

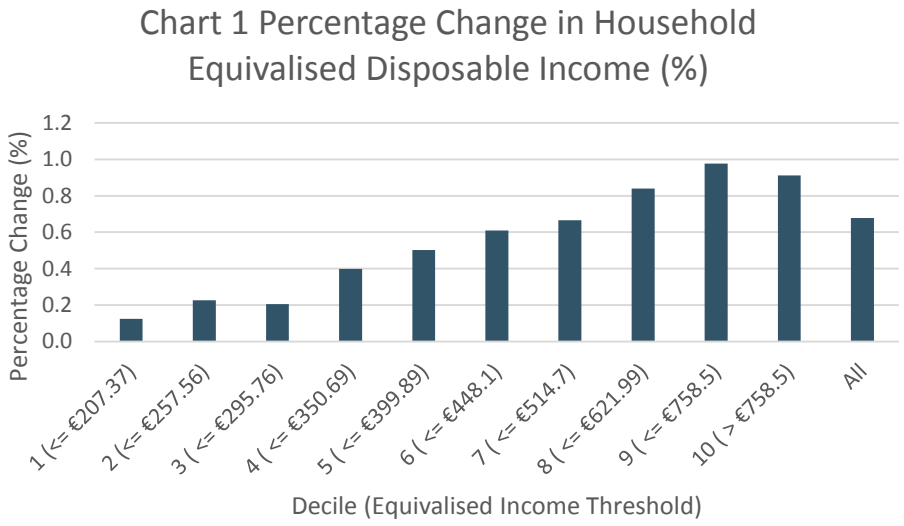
Source: Results based on analysis by the Department of Finance using SWITCH, the ESRI tax-benefit model (www.esri.ie/switch)

12. The proportion of households benefitting under each measure is indicated in the bottom row. This ranges from 8.6% of households for the reduction in the 8% rate of USC to 70% of households for reductions in the 20% rate of income tax or an increase in the personal tax credit. In addition, while the average change in household disposable income (+0.7%) is constant across the different tax measures, the impact on different income deciles varies considerably.

[3] The circa €500 million cost associated with each of the measures is the cost estimate from SWITCH and does not come from the Revenue Commissioners. These SWITCH cost estimates are used to ensure the comparability of the distributional impact. It should be noted that the Revenue Commissioners' Ready Reckoner (RCRR) indicates in some cases quite different cost estimates for the five separate tax measures. The RCRR estimates the costs as follows: IT PTC €1650-> €1890, €527 million; IT 20%-> 19%, €544 million; IT 40%-> 37.5%, €615 million; USC 7%-> 5.35%, €600 million; and USC 8%-> 2.1%, €738 million. One possible reason for the difference is the different data sources and base years used. SWITCH uses Survey of Income and Living Conditions (SILC) data uprated from 2010 to 2015, while the RCRR is based on 2016 estimates from the Revenue tax forecasting model using 2013 data.

13. Having considered a number of individual tax measures in isolation, the following section describes the impact of a possible tax package. For the purposes of exposition, the tax package examined here has been constructed to resemble the features of Budget 2015. This hypothetical tax package is estimated to cost approximately €500 million in a full year and is made up as follows:
    - Increase in the entry point to USC from €12,012 to €14,250
    - Reduction in the 1.5% rate of USC to 1%
    - Reduction in the 3.5% rate of USC to 3%
    - Increase in the 8% USC rate to 9% applicable to income over €70,044 and up to €100,000:
    - Increase in the 8% USC rate to 9% applicable to PAYE income in excess of €100,000
    - Increase in the 11% USC rate to 12% applicable to self-assessed income over €100,000
    - Increase in the standard rate band of income tax by €1,000 from €33,800 to €34,800 for single individuals and from €42,800 to €43,800 for married one earner couples
    - Reduction in the higher rate of income tax from 40% to 39%

14. Under this tax package, every household which pays income tax or Universal Social Charge would benefit. As a result, almost three quarters (74%) of all households are estimated to experience a rise in disposable income. The distributional analysis of the tax package set out below shows that:
    - Overall households experience on average an increase of +0.7% of their weekly household disposable income.
    - Gains generally rise until the ninth decile which experiences an increase of +1% of weekly household disposable income.



Source: Results based on analysis by the Department of Finance using SWITCH, the ESRI tax-benefit model (www.esri.ie/switch)

Financial Incentives to Work

15. The Marginal Effective Tax Rate (METR) and Replacement Rate indicators are relevant to consideration of the incentive for various groups to supply labour. Replacement rates measure the income (after taxes and welfare) a person would receive if unemployed as a percentage of their net wage if employed. The METR measures what part of any additional earnings are "taxed away" through the combined effect of increasing tax and decreasing benefit.

16. Discussions with the ESRI have indicated that updates to the SWITCH model due to be implemented in September 2015 will materially affect the estimated distribution of financial incentives to work generated by the SWITCH model. Therefore at this point in time replacement rates and METRs are not included as part of the analysis. When the update takes place (which should not significantly impact other distributional analysis), it is intended at that stage to examine these indicators more closely.

Members of the Tax Strategy Group may wish to consider these issues.