BUDGET 2002: ANALYSIS OF THE DISTRIBUTIONAL IMPACT

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1. Framework for the Analysis of Distributional Impact

What will be the impact of Budget 2002's tax and welfare measures on the distribution of income? Most commentary on this topic focuses on calculations of cash gain or loss for selected illustrative households. But a small number of hypothetical households cannot adequately represent the diversity of the population. Families differ widely in terms of their demographic composition, incomes, housing situations, the labour market position of their members and other characteristics relevant to their income tax liabilities and welfare entitlements. The only systematic way of taking account of this diversity is to use a tax-benefit model, which simulates the tax liabilities and welfare entitlements for a large-scale nationally representative sample of households. This is precisely what is done by *SWITCH*, the ESRI tax-benefit model (see box for a brief description).

Budget day documentation and most subsequent analysis assumes that, in the absence of the budget, tax and welfare rates would remain fixed in nominal terms. This is in line with the conventions governing the "opening budget". While this is a useful benchmark for some purposes it is of limited value in analysing distributional effects, as the "opening budget" would have non-neutral effects on income distribution and poverty. This can readily be seen by considering what would happen if the conventional opening budget were actually implemented. Welfare recipients would see their real incomes fall. Wage earners would see real incomes rise, but by less than wage growth, because average tax rates would rise.

A "distributionally neutral" benchmark,[1] with equal growth in income across all income groups, provides a more appropriate guide to the distributive impact of budgetary policy. Under such a benchmark, major population groups would share equally in the benefits of economic

[1] We use benchmark here in the sense of "yardstick" or aid to measurement; in the PPF, the term benchmarking has also come to be used to mean adjustment with respect to a target.

growth. Growth in disposable income would be the same for all major population groups, and shares of income for different groups in the population would remain the same after the budget as in the year before. While some would argue that the government should undertake more redistribution, and others that it should do less, the "distributionally neutral" benchmark at least provides a yardstick against which changes can reasonably be measured.

A number of choices arise in implementing such a benchmark. The approach implemented here involves indexing tax and social welfare to the growth in gross wage income, the predominant element in national income.[2] In effect, then, the benchmark represents a budget which is neutral in terms of the share of wages taken in tax, and in terms of the relationship between wages and the incomes of social welfare recipients. For wage earners, this is achieved by increasing tax-free allowances and tax bands in line with the growth in gross wages. For those depending on social welfare payments for their income, an increase in welfare rates equal to the rate of increase in pre-tax wages would, in general, ensure that they shared equally in the growth in income.[3] It is worth noting that this "wage indexation benchmark" can also be viewed as a "neutral" option in macroeconomic perspective: indexing policy to wage growth would keep government revenue and expenditure roughly constant as a proportion of national income.

SWITCH: THE ESRI TAX-BENEFIT MODEL

Tax-benefit models are needed for a comprehensive assessment of the effects of tax and welfare policy changes, taking into account the wide variation in individual and family circumstances relevant to welfare entitlements and tax liabilities. *SWITCH*, the ESRI tax-benefit model, is a well-established tool for analysing the "first-round" effects of tax and welfare policy changes. It is based on the 1994 Living in Ireland Survey, a large-scale nationally representative survey of households undertaken by the ESRI. The model database has been adjusted to ensure that it reflects recent changes in incomes, employment, unemployment and population – and draws on projections of such changes as far ahead as 2004 to provide a framework for medium-term analysis of budgetary issues. It is hoped that it will soon be possible to "re-base" the model using data from the year 2000 wave of the Living in Ireland Survey.

The model uses detailed information on individual and family circumstances (including information on wages and hours of work for those in paid employment, and on labour force status and receipt of social welfare benefits for those not in paid employment) to assess the social welfare entitlements and tax liabilities of each family in the database. The model can therefore simulate for each family the disposable income they would receive under actual policy, or under alternative policies of interest.

Using these detailed calculations it is possible to summarise the impact of policy changes in many different ways. Here we focus in particular on how the average gain or loss varies depending on the income of the family.

[2] Incomes from self-employment are more variable from year to year than wages, so indexing taxes and social welfare to wage growth provides a more stable benchmark.

[3] If tax cuts over and above indexation were implemented, then welfare payments would have to rise faster to keep pace with growth in net wage incomes.

Family units are ranked by income, adjusting for differences in family size and composition using a simple equivalence scale: 1 for the first adult in the family, 0.66 for a second adult and 0.33 for children. Thus, a married couple with a disposable income of £200 per week would have an "equivalised" income of just over £120 (i.e., £200 divided by 1.66). A married couple with one child would have an equivalised income of just over £100 (i.e., £200 divided by 1.99 (=1+0.66+0.33)). Families are then divided into 10 equal sized groups or "deciles", from poorest to richest.

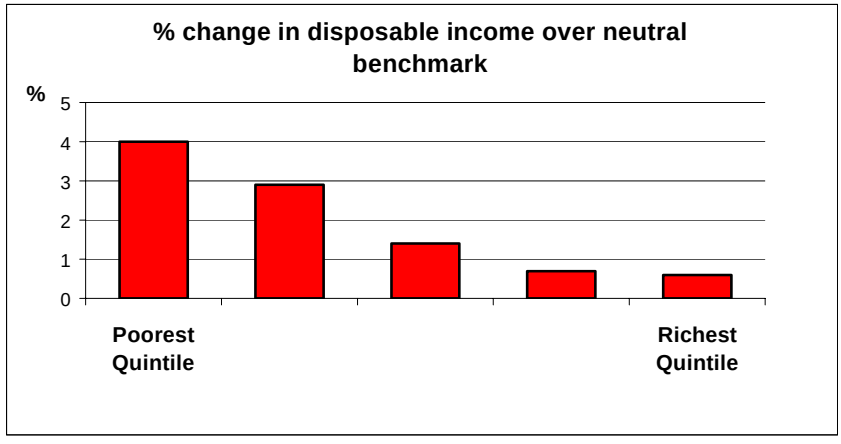
One underlying technical assumption is that labour market behaviour and wage rates are the same under each policy; but the model can shed light on how such behaviour may change by identifying the impact of policy changes on financial incentives to work. Labour supply responses to tax/transfer policy changes are currently being investigated at the ESRI, in a framework which will allow simulation of the dynamic effects of policy changes in future.

2. Budget 2002: Distributive Impact

In what follows we use *SWITCH* to analyse the impact of Budget 2002 relative to a distributionally neutral wage-indexed yardstick. The *Commentary*'s forecast for growth in hourly wages is 6.5 per cent. This is used to construct the benchmark against which the distributive impact of Budget 2002 is assessed. Figure 1 shows the percentage gain in income for five equal sized income groups, ranked from poorest to richest. (The ranking criterion is income per adult equivalent, in order to take account of differences in family size and composition.) The highest gain is for the poorest one-fifth of families (4 per cent), with the next one-fifth also experiencing a significant income boost from the budget of almost 3 per cent. Gains for the top 40 per cent of families are less than 1 per cent.

This pattern differs sharply from that observed over most of the past 15 years. On average, between 1987 and 2001, the top 60 per cent of families have seen their incomes boosted by something over 1 per cent each year by budgetary action; but gains at the bottom have been close to zero.

Figure 1: Distributive Impact of Budget 2002 Measured Against Wage-indexed Budget



What lies behind these results? At the aggregate level, it is clear that there has been a major shift in the allocation of budgetary resources, away from personal tax reductions and towards increases in welfare, particularly in child benefit. Callan, Keeney, Nolan and Walsh (2001)[4] show that over the past 14 years, increases in welfare payments have amounted to no more than 10 per cent of the cost of the budgetary package, over and above wage indexation. Child benefit absorbed most of this, with other welfare payments no more than keeping pace with wage growth. In Budget 2002, however, the net cost of child benefit represented almost 55 per cent of the total net cost of the tax/welfare package, with other welfare payments accounting for a further 25 per cent.. While the amount devoted to tax changes was significant in absolute terms, much of it was required simply to bring tax credits and bands into line with expected earnings growth.

How was this translated into income changes at the micro-level? The rise in child benefit increases income by about £5 per child per week, irrespective of income levels; but the proportionate boost to income is, of course, greatest at low incomes. General rates of increase in welfare payments were often in excess of 10 per cent, well above expected earnings growth of 6 to 7 per cent. On the tax side, the concentration of resources on raising the personal tax credit also helps to focus benefits on the middle, rather than the top, of the income distribution.

What about the impact of the budget on families of different types? Did it, as some have argued, favour two-earner families without children over single-earner couples with children? Our findings indicates that this is not the case. Relative to the neutral benchmark, two-earner couples without children gained half a percentage point in income from the budget. But one- and two-earner couples *with* children gained about one and a half percentage points. The largest gains were for those depending on welfare. Pensioners and unemployed persons without children gained from 2 to 4 per cent, while unemployed couples with children gained an average of about 7 per cent.

3. Conclusions

On average, over the years 1987 to 2001, Budgets boosted the incomes of the top 60 per cent of the income distribution by something over 1 per cent, but did not increase the incomes of the bottom 40 per cent. Budget 2002, by contrast, gave the greatest boost (3 to 4 per cent) to the incomes of those at the bottom of the income distribution, while gains at the top were less than 1 per cent. The analysis set out above does not cover indirect tax changes, nor does it take account of potential changes in labour supply behaviour arising from the tax/welfare changes. Even if such factors could be included, however, it is likely that the distributive impact of Budget 2002 would remain in sharp contrast with that of earlier budgets.

[4] Callan, T., M. Keeney, B. Nolan, J. Walsh, 2001. *Reforming Tax and Welfare,* Policy Research Series No. 42, Dublin: The Economic and Social Research Institute.