

3. INCOME TAX AND WELFARE POLICIES: SOME CURRENT ISSUES

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3.1 Introduction

Official government procedures now require that all significant policy proposals should be “poverty proofed” i.e., that their impact on poverty should be assessed not only in advance, but also when reviewing policy in retrospect. Guidelines drawn up under the National Anti-Poverty Strategy Interdepartmental Policy Committee (1999) state that poverty-proofing should consider the effect of policy proposals – including budgetary policy – on the numbers in poverty and the depth of poverty. In addition, the assessment should take account of the likely impact “on inequalities which are likely to lead to poverty”. In this paper, we examine some of the key issues arising in the implementation of poverty proofing, many of which are linked to similar issues in relation to the broader distributional impact of poverty considered in previous Budget Perspectives conferences. (Callan *et al.*, 1999, 2000). We also consider some specific topical issues in direct tax policy, including the potential use of refundable tax credits.

The choice of a framework for the assessment of the distributional or poverty impact of budgetary changes in tax and welfare policy is examined in Section 3.2. The benchmark used in Budget day documentation and 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. A “distributionally neutral” benchmark can be constructed using *SWITCH*, the ESRI tax-benefit model (see box) and provides a more appropriate guide to the “poverty proofing” of budgetary policy. Using this distributionally neutral benchmark, Section 3.3 examines the balance that has been struck between tax cuts and welfare increases over the past 14 years, and explores the potential impact of different tax

* This paper draws on a fuller study of the reform of tax and welfare, Callan, Keeney, Nolan and Walsh (2001). We are indebted to Brian Nolan for his contribution as a co-author of that study, and to several colleagues for comments which have helped to improve the paper. Responsibility for errors and obscurities remains, as ever, with the authors.

and welfare packages over the next three years. Section 3.4 deals with some current issues in relation to direct tax policy. How can tax cuts be targeted towards the low paid? Would refundable tax credits help? Could abolition of the ceiling on employee contributions help to offset the regressive effects of a top rate tax cut? The main conclusions are drawn together in Section 3.5.

***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. 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.

3.2 Getting Budgetary Changes into Perspective

In assessing the impact on the income distribution of the tax and welfare measures introduced in a particular budget, one needs a benchmark against which to assess the policies the Minister actually announces. What is the best way to construct this benchmark? Here we outline two approaches¹ before going on to compare their usefulness in assessing the impact of budgetary changes on measures of income poverty and the distribution of income.

3.2.1 CONVENTIONAL OPENING BUDGET

The usual approach adopted – for example, in documents accompanying the budget – is to analyse the impact as if the alternative to budget day changes was to leave tax and social welfare policy essentially unchanged in nominal terms. From a legal point of view, it seems that this is what would happen if no budget changes were announced. The approach grows out of the longstanding conventions governing the construction of the opening budget. This simple approach has obvious attractions, but has serious, though less obvious, disadvantages

Under this convention, social welfare expenditures appear to be treated somewhat differently from the bulk of public expenditures. The baseline for most public expenditure is a “no policy change” situation, defined with respect to “existing levels of programmes and services”. Thus, for example, the estimates for health and education expenditure are adjusted to take into account agreed pay increases for relevant staff, or other costs of providing the same level of service.² By contrast, for social welfare expenditures, payment rates are frozen in nominal terms under the opening budget convention. This cannot be regarded as a continuation of the “existing level of services” for social welfare clients. A constant real value for social welfare payments would imply price indexation, while a constant value of social welfare payments relative to other incomes would involve indexation to a broader earnings or income measure.

Similarly, on the income tax side, estimates of receipts which underpin the budget day calculations are made on the basis of no change in rates, allowances or bands. Under a progressive income tax system, this would involve a rise in the tax take as a proportion of income or “fiscal drag”. The amount of fiscal drag would depend on the level of inflation and the growth in real incomes.

3.2.2 INDEXATION TO WAGE GROWTH

When examining the impact of budgetary policy on income distribution and relative income poverty, it is useful to have a benchmark³ which can be regarded as “distributionally neutral”. Under such a benchmark, major population groups would share equally in the benefits of economic growth. Growth in disposable income would be the same for all major

¹ A third approach – a price-indexed budget – is considered in Callan *et al.*, 2001.

² Where pay increases are yet to be negotiated, no increase is assumed but a contingency provision may be included elsewhere.

³ 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.

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.⁴ In effect, then, the benchmark represents a budget which is neutral in terms of the share of wages going 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.⁵ 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.

3.2.3 WHICH BENCHMARK?

What are the implications of using wage indexation or the conventional opening budget scenario as the benchmark for measuring the distributional or anti-poverty impact of policy? In the real world, identifying budgetary impacts can be hampered by concurrent changes in economic and social structures and by difficulties in identifying behavioural responses to tax and welfare policy changes. Here we construct a much simpler illustrative scenario in which the direct impact of budgetary changes on the income distribution and on relative income poverty can be measured. This scenario helps to identify the differences between the alternative benchmarks in assessing budgetary impacts.

Under the scenario, the economy can be regarded as in a “steady state”, with prices and wages growing at fixed rates, and economic and social structures perfectly stable e.g., employment and unemployment rates, the age distribution of the population and so on. All earnings (by employees and by the self employed) are assumed to grow at the same rate – there are no shifts in the earnings distribution towards greater or lesser inequality, or shifts in relativities. Occupational pensions are also set to rise by the same proportion. Essentially, the only changes are to incomes and prices, and not to employment, unemployment or household composition. The baseline year used is 1999, but this illustrative scenario is not meant to be a representation of the year 2000, but a counterfactual

⁴ 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.

⁵ 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.

construct which helps to clarify differences in the nature of the alternative benchmarks.

An Illustrative Scenario

Prices rise by	5%
Real wages rise by	5%
Nominal wages rise by	10.25%

The distributional impact of the alternative benchmarks has been considered in earlier papers to this conference (Callan *et al.* 1999, 2000) and the implications for measuring the distributional impact of budgetary policy are reviewed in Appendix 3.1. Here we focus on the measurement of budgetary impact on poverty. We illustrate this in terms of one of the most commonly used indicators of poverty, the proportion of households below half average income. Table 3.1 shows that just under 20 per cent of households fell below half of mean disposable income per adult equivalent in the base year (year zero). Under the conventional benchmark, this proportion would rise by 2.3 percentage points. There would be a smaller rise (0.7 percentage points) under a price-indexed budget. Under a wage indexed budget the relative income poverty rate remains constant.

Table 3.1: Relative Income Poverty Rate at Half Average Income Under Alternative Policy Scenarios

	Year Zero	Year One	Change in Percentage Points
Conventional benchmark	19.8%	22.1%	+2.3
Price indexation	19.8%	20.5%	+0.7
Wage indexation	19.8%	19.8%	+0.0

Source: Calculations using *SWITCH*.

Thus, if *actual* policy followed the route of price indexation, this would be seen as a budget with a favourable impact on the poverty rate compared to the conventional benchmark (a fall of 1.6 percentage points), but a rise in poverty compared to the wage-indexed benchmark. If actual policy simply froze tax and welfare parameters in nominal terms, this would be seen as having *no* effect on poverty, relative to the conventional opening budget. But relative income poverty would rise between the base year and year 1, despite the fact that there was no economic shock or downturn reducing employment or increasing unemployment.

It seems to us more accurate to characterise such a rise in the relative income poverty rate as due to the tax welfare policy package chosen. This is what happens when a “distributionally neutral” budgetary policy is used as the starting point. The application of price indexation to welfare payments could be interpreted as delivering a constant real standard of living to welfare recipients; this could be seen as parallel to the assumption underlying the “no policy change” estimates of most public expenditure of a constant real level of public services. Wage indexation of tax and welfare policies can be seen as providing a distinctive, distributionally neutral benchmark, which under steady state conditions would imply no change in the proportion of persons falling below relative income poverty lines. In what follows, we compare actual budgetary outturns with the benchmark constructed by indexing tax and welfare policies to growth in wages.

3.2.4 POVERTY PROOFING AND POVERTY AUDITING

As noted earlier, the National Anti-Poverty Strategy requires that policy proposals should be “poverty proofed”. Guidelines for the implementation of poverty proofing procedures were drawn up by the NAPS unit, and partial assessments of the 2001 Budget were undertaken by the Department of Social, Community and Family Affairs (2001) and by the Department of Finance (2001). A key feature of both departments’ analysis is that the implicit assumption is that policy impact can be measured against the conventional benchmark of no change in the nominal values of tax bands and welfare payments. We have seen in Section 3.2 that this benchmark is a very uneven one. If implemented it would involve income losses for welfare recipients, and income gains for those in employment. A wage indexed benchmark was found more suitable for distributional and poverty issues, as it involved equiproportionate growth across all income levels. We now set out the impact of Budget 2001 on one of the key poverty measures, the proportion of persons falling below half average income. This is of interest in itself, as a broad measure of poverty over time; and is an essential stepping stone in assessing the impact of the Budget on the more immediate NAPS poverty target of reducing consistent poverty. (On the relationship between these measures of poverty, and their links to possible poverty targets, including the NAPS targets,, see Layte *et al.*, 2001).⁶

The *SWITCH*-based estimate of relative income poverty for 2000 is a little under 20 per cent.⁷ Under a conventional opening budget this figure would rise to just over 21 per cent. The actual policy implemented for 2001 is estimated as giving rise to a poverty rate of just over 20 per cent. Thus, against the conventional benchmark, Budget 2001 would be assessed as reducing poverty by about one percentage point. But a wage-indexed budget would see poverty remain at its 2000 level of just under 20 per cent. Measured against this distributionally neutral standard, Budget 2001 is found to have increased relative income poverty.⁸

In our view a distributionally neutral benchmark is essential for a clear assessment of the distributional and anti-poverty impact of budgetary policy. Such a benchmark requires the use of microsimulation methods, based on nationally representative household survey data.

⁶ In order to move to an assessment of the impact on consistent poverty, one must estimate or judge on the basis of available evidence, the likely impact of the budget on the proportion of those below the income poverty line who are also experiencing basic deprivation. This involves two elements. First, one must add information on the existing set of deprivation indicators. Second, one may need to revise this set, for example, to add items which have become regarded as socially defined necessities.

⁷ *SWITCH*-based estimates use the 1994 database projected forward, and use simulated tax liabilities and welfare entitlements in order to be able to compare the results of alternative policies. Thus the levels of poverty simulated by *SWITCH* may not coincide with those produced from current data, but the impact of policy changes may nonetheless be quite closely modelled.

⁸ The increase is of the order of half a percentage point.

3.3 Tax/Welfare Balance: Retrospect and Prospect

In the run up to the annual budget, much interest is centred on how much is available for the package of tax cuts and welfare increases. This is, of course, an important question. But an equally important and relatively neglected question is what are the effects of different ways of allocating the total resources available between income tax cuts and welfare increases. In order to focus on this issue, we make some relatively simple assumptions about the size of the total tax-welfare package in the medium term. How much is likely to be made available for tax cuts and welfare increases? This depends *inter alia* on broader economic trends, and on priorities as between other spending (e.g., health, education, roads) and welfare spending. While these factors are subject to change, some indication of the overall size of the tax/welfare package can be obtained from the projections relating to the stability programme, attached to the budget. Notes to tables projecting the situation in 2002 and 2003, supplied in Department of Finance (2001), state that they include “technical provisions under the expenditure and tax headings for possible future budgets, with full year costs of £1.3 billion in 2002 and £1.2 billion in 2003”. While not all of this would normally go to tax and welfare increases, we assume for the purpose of this analysis that £2,500m is the total amount made available to the tax/transfer system over the 2 year period to 2003.⁹

Our investigation of the allocation of budgetary resources as between income tax cuts and welfare increases is organised around three central questions.

- How have budgetary resources been allocated as between tax cuts and welfare increases in the past?
- How might they be allocated in future?
- What might be the consequences in terms of relative income poverty, the distribution of income, and financial incentives to work?

3.3.1 PAST TRENDS

Table 3.2 analyses how resources have been allocated over the seven year periods ending in 1994 and 2001, and also for the last three individual budgets. For the various periods of interest, the basic procedure is the same, and resembles that used in analysing year-to-year changes. First, A scenario for the end period (population, employment, unemployment, income levels) is established. Then we compare the impact on that fixed population of a budget which simply indexes the base period policy in line with wage growth, and of a budget or series of budgets which instead implements the policy changes actually observed.

In this way we are able to calculate the total cost of actual policy, over and above indexation; and to examine how the additional resources involved are allocated as between tax cuts, child benefit increases, and other welfare increases.

⁹ If the actual resources available are below this figure, then the trade-offs illustrated later are even sharper.

It must be emphasised that – as elsewhere in this paper – the analysis is undertaken on a “static” basis i.e., it does not take account of behavioural responses induced by policy changes. For example, a budget cutting income taxes may improve the financial incentive to work, keep wage growth below what it would otherwise have been, and stimulate employment growth. On the other hand, a rise in welfare rates may alter the balance between in-work and out-of-work income, in such a way that may lead to longer unemployment durations and a higher observed rate of unemployment.

A corollary of the “fixed rate of unemployment” underlying the analysis is that the analysis is not affected by the impact of changes in unemployment on the demand for welfare benefits. The fact that the analysis is undertaken on a fixed population means that it shows very clearly how resources have been allocated as between tax cuts, child benefit and welfare increases. There is no need for any further adjustment in terms of the rate of unemployment or the size of the child population: each policy is acting on a fixed population.

Table 3.2: Costs of Indexation to Wages, and Total Costs of Tax and Welfare Budgetary Packages

Year/Period	Net Cost Over and Above Indexation	Per Cent of Net Cost Over Indexation		
		Tax	Child Benefit	Other Welfare
	£m	£m	£m	£m
1987-1994	379	136%	0%	-36%
1994-2001	3,809	91%	13%	-4%
1998-1999	378	98%	4%	-2%
1999-2000	844	98%	8%	-6%
2000-2001	958	78%	27%	-4%

Source: Estimated using *SWITCH*.

Over the 1987 to 1994 period, the average annual cost of the tax and welfare packages, relative to the conventional opening budget, was of the order of £340m. But most of this would have been required simply to index the systems in line with wage growth, leaving an average of about £50m per annum over and above indexation. Welfare expenditure increased by less than would have been required for indexation to gross wages, although child benefit did rise in line with wages. By contrast, the tax system was allocated more than the total amount available over and above indexation. During the 1994 to 2001 period, both the tax system and child benefit were allocated more resources than were required for wage indexation; but the rest of the welfare system received slightly less than would have been implied by indexation. The total welfare system, including child benefit, received under 10 per cent of the total resources over and above indexation, while the tax system was allocated about 90 per cent.

During 1999 and 2000, trends were similar to the overall 1994-2001 period, with social welfare expenditure being increased by slightly less than

the rate of wage growth, child benefit by somewhat more than wage indexation, and the tax system being allocated substantial resources over and above what wage indexation required. But the size of the child benefit increase in Budget 2001 was such that the total welfare system (including child benefit) received about 22 per cent of the total resources over and above indexation. The rest of the welfare system received resources marginally less than those implied by wage indexation.

3.3.2 FUTURE SCENARIOS

We now construct three policy scenarios, drawing on a range of sources including the specific commitments on tax and welfare policy in the *Partnership for Prosperity and Fairness* (Ireland, 2000); other announcements of government intentions such as that on child benefit increases; and on the analysis undertaken above. The main social welfare commitments in the PPF which are still outstanding after Budget 2001 are:¹⁰

- All rates of social welfare will be increased in real terms in the period up to 2003.
- The Government's £100 target for all old age pensions will be achieved by 2002.
- Over the period up to 2002, all old age pensions will increase in line with average industrial earnings.
- Substantial progress will be made over the period up to 2003 towards a target rate of £100 per week for the lowest social welfare rates.

In addition, Budget 2001 announced not only increases in Child Benefit for 2001, but also the rates that would be reached by 2003:

- £117.50 per month for the first and second child and
- £146 per month for third and higher order children.

These commitments can be used to specify a likely future welfare policy scenario, which can be costed to determine the implied split of resources between the welfare and tax systems.

Similarly, we may look at outstanding tax commitments in the government's (Fianna Fáil and the Progressive Democrats, 1997) *Action Programme for the Millennium* (APM), and in the *Partnership for Prosperity and Fairness* (PPF) for indications of likely future action:

- The standard rate tax band will be broadened "to ensure that 80 per cent of taxpayers do not pay the higher rate on any part of their income" (APM) and "The social partners support the policy of establishing a single standard rate tax band for all individual taxpayers. They also agree that the standard rate income tax band should be kept under review in the light of increases in income levels and the objective of ensuring that, over time, at least 80 per cent of taxpayers are not subject to the higher rate of income tax" (PPF).

¹⁰ These are summarised in a paper on social welfare strategy for the Tax Strategy Group (2000).

- “If economic circumstances permit, the objective will be to reduce the higher rate to 40 per cent during the lifetime of the Government” (APM).
- “The Government and the social partners regard increases in tax credits and the development of the tax credit system as priority areas for resources” (PPF).
- “It is an agreed policy objective of the government and the social partners that, over time, all those earning the minimum wage will be removed from the tax net.” (PPF)

The quantitative implications of these objectives are not quite so clear-cut. For example, what judgement will be made as to whether “economic circumstances permit” reduction in the top rate of tax to 40 per cent? And as regards increases in tax credits, the time scale envisaged for the removal of those on minimum incomes from the tax net will determine the rate at which personal tax credits will rise. Budget 2001 states that as a result of the band widening “the proportion of income earners on the higher rate will fall to 23 per cent”. The implication seems to be that reaching the declared target (no more than 20 per cent on the higher rate) would require fairly modest increases in the width of the standard rate band, over and above indexation in line with earnings.

The commitments regarding payment rates for pensions and for non-elderly social welfare recipients can be approximated by wage indexation over the years 2002 and 2003. This would see personal rates of Old Age Contributory Pension exceed £120, while the non-contributory rate would reach £110 in 2003. Most rates would be at least £98 with the lowest rates within £3.50 of the £100 target. Wage indexation of social welfare rates to 2003, along with indexation of tax parameters, would cost almost £1,680m, leaving £950m from the total resource envelope. The net cost of the substantial increases in child benefit (allowing for savings from “freezing” the rates of payment for child dependant additions) is about £470m. Even with no further welfare increases, this leaves the share of welfare in the resources over and above indexation at about 50 per cent. As the welfare commitments are more explicit than those on tax, we take this as our central scenario. About half of the resources available are applied to the specific welfare commitments, with half applied to a package of tax cuts. We construct two alternative scenarios. One gives priority to tax cuts, with all the resources over and above indexation applied to tax reduction: this is not unlike the trend over much of the past 14 years. The other scenario gives priority to welfare increases, with all of the resources over and above indexation being applied to welfare payments including child benefit, and tax changes are limited to those offsetting the effects of wage growth. Each scenario is constructed within the same total resource envelope.

Key tax and welfare parameters associated with each of the scenarios are set out in Table 3.3.

In the central scenario, all the major welfare targets are met: the lowest pension rates reach £100 in 2002 and rise in line with wages in 2003, and other personal rates are close to the £100 level in 2003. Child benefit reaches the levels announced in Budget 2001. The remaining resources are sufficient to permit wage indexation of other elements of the tax and welfare systems, and to allow for a package of tax cuts including two

percentage points off the top rate, substantial increases in personal allowances and widening of the standard rate band. Under the scenario entitled “priority to tax” all welfare rates (including child benefit) are scaled back – implying that welfare targets are not met – so that resources over and above indexation go purely to income tax cuts. This allows further increases in basic personal allowances and some further widening of the standard rate band, as well as a one percentage point cut in the standard rate of tax. Conversely, a budgetary package with all resources above indexation devoted to welfare expenditure could see rates of payment rise by about £10 to £11 per week above the central scenario.

Table 3.3: Specification of Policy Scenarios

	Priority to Tax	Central Scenario	Priority to Welfare
<i>Income Tax</i>			
Personal tax free allowance	£7,900	£7,200	£6,308
Standard rate band (single)	£25,000	£24,000	£22,940
Standard rate band (2-earner couple)	£50,000	£48,000	£45,880
Standard rate band (1-earner couple)	£31,000	£30,000	£30,000
Standard tax rate	19%	20%	20%
Top tax rate	40%	40%	42%
<i>Social Welfare</i>			
Old Age (Contributory) Pension	£112.10	£121.60	£133.60
Old Age (Non-contributory) Pension	£101.00	£109.50	£120.30
Unemployment Benefit	£90.40	£98.10	£107.70
Child Benefit (1 st /2 nd child)	£108.30	£117.50	£117.50
Child Benefit (3 rd child up)	£134.60	£146	£146
<i>Costs in excess of indexation</i>			
Social welfare	0	£468m	£955m
Tax	£962	£479m	0

Memo item: Costs of indexation are £928m for tax, £750m for social welfare.

Note: FIS income limits adjusted to maintain cash gap between income in-work (with FIS) and income out of work (with UB).

3.3.3 IMPLICATIONS FOR INCOME DISTRIBUTION, POVERTY AND FINANCIAL WORK INCENTIVES

Income Distribution

The first-round distributional impact of the alternative policy packages are illustrated in Figures 3.3 to 3.5. The central option, with half of the resources above indexation going to tax and half to welfare, yields a fairly even spread of gains across the income distribution. Most deciles have gains of between 2 and 3 per cent. The largest gains are in the second decile (about 3½ per cent) and the smallest gains are in deciles 3, 7 and 8 (1½ to 2 per cent). Compared to the spread of gains shown by many actual budgets, this is quite narrow.

Figure 3.4 shows quite a different picture for the outcome when all resources over and above those needed for indexation to wages are allocated to tax reductions. There are substantial losses – from 3½ to over 5 per cent – at the bottom of the income distribution, relative to a wage indexation benchmark. This contrasts with gains of about 3 per cent for deciles in the upper half of the income distribution.

An alternative use of resources is to reverse the trend of recent years and aim at welfare increases which exceed the wage indexation

benchmark. Under this scenario, the income tax system would simply be indexed in line with wages, and all other budgetary resources would be applied to increases in personal and qualified adult rates (with increased child income support coming wholly through the specified increases in child benefit). Gains are highest in the bottom two deciles, and decline steadily to very low levels of gain for the top income deciles. For the bottom 30 per cent of family units, average gains are of the order of 10 per cent. In the remainder of the bottom half there are gains of 3 to 5 per cent. In the upper half of the distribution gains fall from 2 per cent to less than half of one per cent.

Figure 3.3: Distributive Impact of Central Policy Scenario 2003, against 2001 Policy Indexed to Earnings Growth

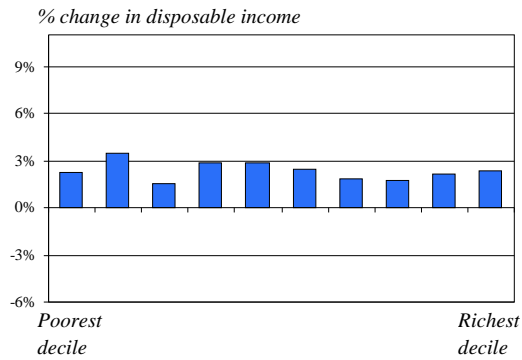


Figure 3.4: Distributive Impact of “Priority to Tax” Policy Scenario 2003, against 2001 Policy Indexed to Earnings Growth

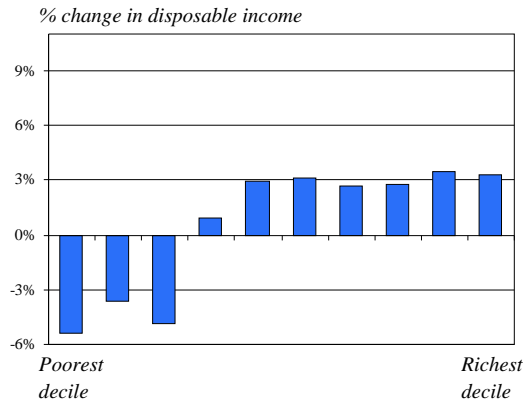
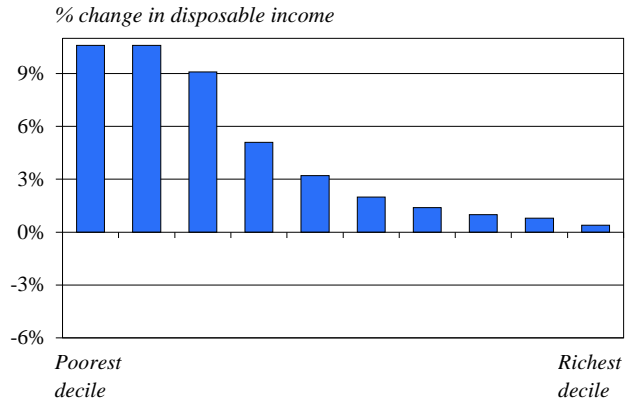


Figure 3.5: Distributive Impact of “Priority to Welfare” Policy Scenario 2003, against 2001 Policy Indexed to Earnings Growth



Relative Income Poverty

What about the implications of the alternative policy packages for relative income poverty? Table 3.4 sets out the impact of the packages on some of the key indicators of relative income poverty. Mean disposable income is, of course, nearly identical across the three options. But differences in the distribution of income brought about by the relative scales of the tax cuts and welfare spending have significant implications for the incidence of relative income poverty.

Table 3.4: Impact of Alternative Policy Options on Relative Income Poverty

Poverty Measure	Priority to Tax	Central Scenario	Priority to Welfare
Mean disposable income per household	£304.18	£304.29	£304.18
% of persons below			
40% of mean income	12.6%	9.5%	7.7%
50% of mean income	21.9%	21.0%	18.4%
60% of mean income	27.8%	27.0%	26.2%

Memo item: Relative income poverty rate at 50 per cent of mean income is 21.1 per cent under wage indexed policy.

About 21 per cent of households fall below half average income under the central option. This is very close to the number falling below half average income under the simple wage indexation benchmark. Reallocating resources towards tax cuts raises the proportions below 50 and 60 per cent of average income by about one percentage point. Reallocation towards welfare expenditure, on the other hand, reduces the proportion below half average income by about 2½ percentage points, and the proportion below 60 per cent of average income by something under one percentage point. Analysis using more comprehensive measures of poverty (taking into account the depth, or the depth and distribution of poverty) confirms that the results stated are not simply dependant on the location of the poverty line or on the properties of the head count measure. But these more sophisticated measures also show a greater “symmetry” about the central option e.g., the poverty gap at half average

income rises and falls by about the same amount under the priority to tax and priority to welfare options respectively. The fact that moving from “priority to tax” to the central option lowers the head count at half average income reflects the fact that many individuals are pushed from just below to just above the poverty line.

Financial Work Incentives

We consider two major aspects of the financial incentive to work. For those who are in employment, we consider the effective marginal tax rate. This is made up of the marginal rates of income tax and employee social insurance contributions/levies, together with the benefit withdrawal rate arising for recipients of Family Income Supplement. This concept is of most relevance to decisions about an extra hour or an extra day’s work. For those who are unemployed or classify themselves as engaged in home duties, a more relevant measure of the financial incentive to work is provided by the replacement rate – the ratio of the family’s disposable income out-of-work to disposable income in work.

Table 3.5 shows how marginal tax rates for employees are affected by variations from the central policy scenario (wage indexation of tax and welfare, plus extra resources to meet the child benefit target, with remaining resources applied to tax cuts).

Table 3.5: Impact of Alternative Policies on Marginal Tax Rates

Marginal Tax Rate Relative to Central Policy Option (percentage points)	Priority to Tax	Priority to Welfare
More than 20 per cent lower	2.8	0.0
2 per cent lower	65.0	0.0
No change	32.2	62.8
2 per cent higher	0.0	34.0
More than 20 per cent higher	0.0	3.2
	100	100

Memo item. Number of individuals: 1.15m.

Under the “priority to tax” option, there is a fall in the standard rate of tax from 20 per cent to 19 per cent, affecting about two-thirds of employees. Most of the remainder see no change, but just under 3 per cent are affected by either additional widening of the standard rate band (bringing some individuals from the top rate to the standard rate of tax) or increased allowances (removing others from the tax net). Under the “priority to welfare” scenario, marginal tax rates are unaffected for close to two-thirds of employees. About one-third – those on the top rate of tax – would have a tax rate two percentage points higher than in the central policy option. This is because the “priority to welfare” option forgoes the two percentage point cut in the top rate of tax, in order to concentrate resources on welfare increases. A further 3 per cent would have tax rates at least twenty percentage points higher than in the base case. About half of this is due to differences in the width of the standard rate band and the personal allowance. The other half is due to higher income limits for FIS, which make more persons eligible. While the net incomes of these additional FIS recipients are boosted, a rise in their earned income leads, in the long-run, to the loss of 60 pence per pound of additional income.

This withdrawal rate for FIS increases the marginal tax-cum-benefit withdrawal rate.

Table 3.6: Impact of Alternative Policies on Replacement Rates for the Unemployed (on UA or UB)

Replacement Rate Category	Per Cent of Unemployed		
	Priority to Tax	Central Option	Priority to Welfare
Less than 20 per cent	16.8	13.3	8.5
20 to 40 per cent	41.7	36.2	34.2
40 to 60 per cent	23.6	29.1	32.3
60 to 70 per cent	6.8	8.2	8.9
70 to 80 per cent	6.6	6.2	8.2
Over 80 per cent	4.5	7.0	7.7
<i>Total</i>	100	100	100

Table 3.6 shows the distribution of replacement rates for the unemployed – the ratio of out-of-work family income to in-work family income – under the alternative policy scenarios. It shows that 13 per cent of unemployed persons would have a replacement rate above 70 per cent (a commonly used cut-off) under the central policy scenario. This proportion would rise to almost 16 per cent under the priority to welfare scenario, but would fall to 11 per cent under the priority to tax option. A similar analysis was undertaken for those who classify themselves as engaged in home duties. (Callan *et al.*, 2001.) Under the central policy option, about one-third would face replacement rates above 70 per cent. This would rise by about two percentage points under the priority to welfare option, or fall by about two percentage points under the priority to tax option. Similar analysis for employees shows that the policy alternatives above have very little impact on the incidence of high replacement rates among employees: it remains low under each option (at about 11 to 12 per cent).

3.4 Direct Taxes: Some Specific Issues

3.4.1 TAKING THE LOW PAID OUT OF THE TAX NET

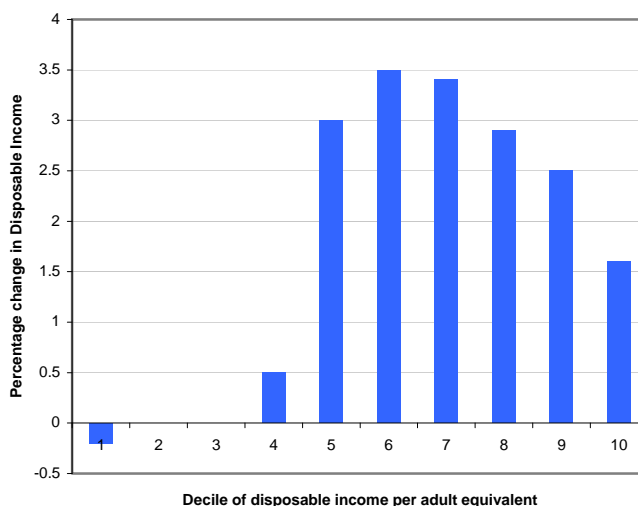
The Programme for Prosperity and Fairness (Ireland, 2000) supports further tax reductions to improve take-home pay for all taxpayers, “especially those with below average earnings”.¹¹ In terms of taxation policy, this is translated into a focus on increasing tax credits, rather than reductions in rates or widening of tax bands. One specific commitment is that “It is an agreed policy objective of the Government and the social partners that, over time, all those earning the minimum wage will be removed from the tax net”.¹² Let us examine, therefore, the aggregate cost and distributive implications of a rise in the personal tax credit sufficient to take all those earning the minimum wage out of the tax net.

¹¹ This suggests a rather wider objective than assistance to the low paid, as it encompasses more than half of those in employment. Figures based on half or two-thirds of mean or median earnings as a low pay threshold are more commonly quoted in the international and national literature (see, for example, Nolan, 1993).

¹² This might be seen as being motivated by a concern focused on those below the minimum wage; but as will be seen, such a policy has much wider implications.

In order to ensure that all on the minimum wage (£4.70 per hour in 2001), are taken out of the tax net, the combined personal and PAYE allowances would need to be increased to £9,800 per year equating to a combined tax credit of £1,960 per annum. Using *SWITCH*, we find that the exchequer cost of increasing the personal tax credit to £1,960 (or the standardised personal allowance to £7,800) holding the PAYE allowance/credit at its current level is almost £780 million. Figure 3.6 shows the percentage changes in disposable income by decile of income per adult equivalent, from poorest to richest. This shows that there would be little change in the incomes of the poorest 40 per cent of tax units. Gains of 3 to 3½ per cent are found in the middle of the distribution, with somewhat smaller gains towards the top.

Figure 3.6: Distributive Effect of Increase in Personal Allowance to Level of Minimum Wage, 2001



Only about 16 per cent of the total tax forgone benefits those in the bottom half of the distribution, while 84 per cent goes to the top half. On this evidence, it would seem that the increase in tax credits does produce improvements in income for the target group – low-paid employees and others with low taxable incomes – but that much of the benefit “spills over” to higher income earners, while those whose incomes are already too low to pay tax receive no benefit.

Why does this occur? In part, the pattern reflects the lack of overlap between low pay and poverty. (see Nolan, 1993). Those who are on low pay may be married to a spouse with earnings which bring the tax unit to the middle or upper reaches of the income distribution. But in large measure, the spillover effect results from the simple fact that those who are taken out of the tax net do not, by definition, obtain the full value of an increased allowance; while this full value is obtained by those who remain in the tax net. The average value to those who remain in the tax net is about £650 per year, almost twice the benefit obtained by tax units who are brought out of the tax net. The tax system does allow for various methods to “claw back” some or all of this benefit, though each has its own drawbacks. The “exemption limit” system was explicitly designed to

give benefit only to those at the lowest incomes; but carried with it a high marginal tax rate on those with incomes above the target cut-off. Other methods of clawing back some of the relief could include increases in either the standard or top rates of tax. But the negative aspects of such policies have also motivated a search for other means to focus relief on low income units.

3.4.2 REFUNDABLE TAX CREDITS

As we have seen, for those who are already out of the tax net a rise in tax credits brings no further benefit. This is one reason why “refundable” tax credits – where a negative tax liability leads to a cheque being paid by the authorities to the taxpayer – are of interest. Refundable tax credits could allow tax policy to improve the incomes of these low income tax units. In the Programme for Prosperity and Fairness, the social partners agreed to set up a special Working Group to examine the role which refundable tax credits could play in the tax and welfare system; this examination was to include the possibility of paying Family Income Supplement through the income tax system.

Refundable tax credits can take a number of different forms.

- In the US and the UK, particular attention has been given to the design of tax credits which would offer support to low income parents (the Earned Income Tax Credit (EITC) in the US, and the Working Families Tax Credit (WFTC) or Employment Tax Credit (ETC) in the UK, taking the place of the means-tested benefit Family Credit).
- A refundable tax credit could also substitute for a universal benefit such as child benefit.
- Tax relief at source shares the key characteristics of a refundable tax credit, in that taxpayers with zero (or negative) tax liabilities also gain. For example, the introduction of tax relief at source on mortgage interest leads to a reduced gross payment rather than a tax allowance, so even mortgage holders with a zero tax liability will gain.
- A more radical step would be to make the basic personal tax credit refundable. This could be seen as a partial basic income, with a relatively low rate of payment. Welfare payment rates might be adjusted to take account of the existence of such a payment.

In considering a possible move from tax credits to refundable tax credits, we focus first on what that move involves – the difference between refundable and non-refundable tax credits. In the longer term, however, it may be more helpful to view tax credits as an alternative form of the delivery of a benefit – a fixed cash sum, given under certain conditions – and ask what are the advantages and disadvantages of each delivery mechanism.

Refundable Tax Credits and Tax Relief at Source

A significant development in Budget 2001 was the introduction of relief at source for health insurance premia. It was also announced that mortgage providers would give mortgage interest relief at source from January 2002. Because the value of this relief is equally available to all those with a

mortgage or health insurance regardless of whether or not they are subject to income tax, these credits in effect operate as *refundable* tax credits. This increases the value of this relief for the lower deciles of disposable income per adult equivalent. *SWITCH* estimates the full-year exchequer cost of these changes to total £25 million. The gains are concentrated on the bottom half of the distribution, with deciles 1 to 4 seeing a rise of between a quarter and a half of one per cent in disposable income, while there are no gains for the upper half of the distribution.

Extending the Range of Refundable Tax Credits

Budget 2001 saw the completion of a move from a system of tax free allowances, to a system based on tax credits. This followed a transition process where all tax allowances were standard rated. The idea of refundable tax credits is under discussion in a Partnership Working Group. To make all tax units benefit from tax credits regardless of whether or not they pay tax, a radical move would be to make all tax credits refundable. Making all current tax credits refundable would cost in excess of £850 million, with the first 4 deciles obtaining about 97 per cent of the benefits. The gain for those in the bottom 3 deciles would be from 15 to 33 per cent. Essentially, this would involve the payment of the standard-rated value of tax free allowances to all, irrespective of their income level or income source. Thus, welfare recipients, and others on incomes below the tax threshold, would gain close to £30 per week from a refundable tax credit.

While this is not the same as the “basic income” idea, there are elements in common. Atkinson and Sutherland (1990) consider the effects of “cashing out” the value of tax free allowances, and treating the resultant payment as a partial basic income. If refundable tax credits were operationalised in this way, the £30 per week would be deducted from welfare payment rates, but would be seen by recipients as a payment which did not depend on their welfare status. Thus, job offers could be evaluated on the basis of gross amounts payable, less tax at the standard rate. The true in-work and out-of-work incomes could be calculated somewhat more easily – though assessing the likely amount of FIS payable, if any, would remain quite complex. But of itself, this change would do little to alter the real financial incentives, as distinct from perceptions about them.

Delivery through the Tax System: from FIS to a Refundable Tax Credit

Experience elsewhere (UK and US) has shown that there may be some advantages to operating an “in-work” benefit through the tax system as a tax credit. Workers would avoid the stigma and the transactions cost associated with the welfare system and they would see an immediate reward in their take-home pay. Shifting administrative responsibilities from the expenditure system to the tax system would make it easier to impose separate taper rates for different family types. However, the difficulties associated with administering a refundable tax credit include the possibility of erroneous payments if family circumstances or income unexpectedly changed during the year and there was no reconciliation

process at the end of the year. On the other hand, it is vital that families receive assistance when they are most in need and connect the reward with work effort. Further, paying the credit through the recipient's pay cheque would reinforce the distinction between the rewards of work and remaining on welfare.

As against this, paying the benefit through the employer could raise privacy concerns, impose administrative costs on employers and make it more likely that firms rather than workers would capture the subsidy. The UK has addressed the first two concerns by adopting procedures that minimise the involvement of firms in administering the WFTC. It is likely that the institution of a minimum wage would offset the effect of employers capturing the benefit of the subsidy by reducing the wage rate by an equivalent amount. However, firms are likely to be constrained to pay all people who do the same job equally. If the credit recipients were likely to be only a small share of a firm's workforce, the firm will not be able to capture the subsidies.

The PAYE system uses a cumulative withholding system in which tax payments change as income and liabilities change during the year. However, in light of the degree of individualisation between spouses in the Irish tax system, this tracking can only follow an individual's income not the couple's income. Family income is more difficult to track in a timely fashion. It is not surprising that the UK WFTC retains a largely retrospective eligibility determination that existed for the welfare Family Credit scheme.

Paying FIS through the tax system has an additional attraction from an administrative point of view. When paid through the welfare system, FIS counts as an expenditure. When paid through the tax system, it is more likely to be viewed as a tax reduction. This may have implications for how the resources are accounted for in terms of the government's own spending limits, or limits agreed at EU level.

Refundable Tax Credits for Children

Another possibility is to introduce a refundable child tax credit, in place of the child benefit currently paid. How would refundable child tax credits (RCTC) differ from child benefit in its effects?

Payment of Child Benefit (CB) depends on completion of some relatively simple forms. Would this remain the case for RCTC, or would payment of RCTC depend on being fully up-to-date with tax returns? If so, then a shift from CB to RCTC could affect two classes of "non-compliant" taxpayer. First, those who are not paying the tax due. Second, those who have paid the tax due (or in some cases, more than the tax due) but who have not, as required by law, kept their tax returns up to date. Alternatively RCTC could take a form very similar to CB, and this would be allowed in calculating the taxpayer's tax liability without having to prove that other tax affairs were up to date.

Under the CB system, payments continue (by voucher at the post office, or direct to a bank account) irrespective of the labour force status of the claimant. An RCTC may have particular advantages for those in steady employment, and may be very similar to CB for those out of employment, but dealing with those who move into and out of

employment would pose challenges. Could administrative mechanisms be put in place to ensure timely payment is kept up and avoid dual payments?

A feature of the child benefit scheme is that, in most cases, it is paid direct to the mother. Under the RCTC, by contrast, the value of the payment would be included in someone's pay cheque or pay packet. Thus, the payees under CB and RCTC could be different in a good many cases. While the real implications for the use of resources may be limited, there are some instances where the altered balance of resources will affect outcomes and the welfare of children. Kooreman (2000) suggests that the influence of child benefit on spending on child-related goods may be linked to the labelling of the payment. Madden's (2000) findings in the Irish case are somewhat more tentative, but suggest that a labelling effect may also be present. If a "refundable child tax credit" were to achieve similar results to a child benefit, then it would have to have similar impact as a label in identifying a payment intended to benefit children.

From an administrative point of view, the fact that child benefit counts as an expenditure, while RCTC is a "tax reduction" may be of particular importance. If administrators are faced with "cash limits" on expenditure (e.g., a ceiling on expenditure growth from year to year) this would rule out certain policy options – even if they are desirable on other grounds. Such rules may come from national government or from EU level. If the rules are amenable to change (e.g., because national government can be persuaded to remove an expenditure cap) then this may be the "first best" way to deal with an unwanted distortion. But if the rules are externally imposed and cannot be changed, then alterations in the balance of policy instruments of this type can provide a "second best" solution.

The use of an RCTC could result in some altered perceptions. At present, child benefit may be seen as a welfare payment and little to do with the person who sees himself or herself as a taxpayer. Likewise, welfare recipients may see tax credits as little to do with them. But a refundable child tax credit could be seen as something which would be of benefit to all children and their parents, irrespective of their labour market status. It could be argued, on the other hand, that one of the virtues of Child Benefit is the widespread recognition and support which it enjoys.

3.4.3 PRSI AND THE TOP TAX RATE

As noted earlier, the Government's *Action Programme for the Millennium* includes as an objective a reduction in the top rate of tax to 40 per cent, "if economic circumstances permit". This sits somewhat uneasily with the objective agreed by Government and the social partners in the *Partnership for Prosperity and Fairness*, which emphasise the increases in tax credits and the development of the tax credit system as the priority areas for resources, with a view to delivering benefits and focusing resources in an equitable manner.

Can these conflicting objectives be reconciled? One suggestion has been that a cut in the top tax rate of two percentage points could be combined with abolition of the ceiling on employee PRSI contributions, and a cut in the employee contribution rate. If the rate were not cut, the combined marginal rate of tax and PRSI would rise by two percentage points. A cut in the employee PRSI rate from 4 per cent to 2 per cent

would, on the other hand, leave top employment incomes facing the same marginal tax rate (42 per cent) as before the change; the tax rate on self-employment incomes would fall unambiguously.

The full year cost of cutting the top tax rate to 40 per cent in Budget 2002 is estimated by *SWITCH* at £240m – about 4 per cent higher than the official estimate of £230m. Abolition of the ceiling on employee contributions would raise less than one-third of the cost. The net gains are concentrated on those in the top two income deciles. Average disposable income would rise by about 1 per cent for those at the top of the income distribution, but there would be virtually no gains for the bottom 80 per cent of the distribution.

A two percentage point cut in the employee rate of PRSI contributions would be required to keep the effective marginal tax rate on top earners from rising. This would raise the total cost of the package by about £230m, to around £500m per year in a full year. The first-round effects would involve gains of between half and 1 per cent in the middle of the income distribution, with gains of 1½ to 2 per cent towards the top. Gains at the bottom of the income distribution would be negligible. Thus, while abolition of the ceiling on employee contributions does somewhat offset the regressive effects of reductions in the top rate of tax, the packages examined here remain heavily tilted in favour of higher earners.

3.5 Conclusions

We have examined alternative benchmarks for the assessment of the distributive and poverty impact of budgetary policy. While the opening budget convention, as developed over the years, may have particular attractions as a baseline for the *construction* of a budget, it is inadequate as a benchmark for the *assessment or evaluation* of budgetary impact on income distribution and poverty. Implementation of the conventional opening budget would see relative income poverty rise; as welfare recipients real incomes were reduced by inflation, while those with earnings would usually see their real incomes increase. Nevertheless, such a policy would be measured against a conventional opening budget benchmark as having *no* impact on poverty or income distribution. These findings point towards the need for the “poverty-proofing” of budgetary policy against a distributionally-neutral wage-indexed benchmark, rather than the conventional opening budget framework currently employed.

The trade-off between levels of income support and the tax rates required to finance them are faced repeatedly in the construction of the annual budget. The current positioning of the tax/transfer system along that trade-off reflects the accumulation of past choices in the allocation of resources. Over the past 14 years, we found that on average, the welfare system obtained no more than 10 per cent of the incremental resources available to the tax/transfer system (over and above what would be required by wage indexation). Looking to the future however, specific commitments on welfare, and the indicative level of resources for tax and transfer changes, would imply something more like a 50-50 split of additional resources as between the tax and welfare systems

Working within the resource envelope indicated by Budget 2001, we constructed a central policy scenario around specific tax and welfare commitments (mainly in Budget 2001 and the Partnership for Prosperity

and Fairness). Variations from this scenario, giving priority to tax or to welfare, in the allocation of resources, were also considered. These showed that key poverty indicators, such as the proportion of individuals below half average income (“the relative income poverty rate”), could be significantly influenced by the allocation of resources as between welfare and tax. A continuation of past trends (the priority to tax scenario) would see relative income poverty rise. The central case, with approximately equal resources devoted to special increases in welfare payments – mainly child benefit and to tax cuts, would see relative income poverty rates fairly stable. A scenario giving priority to welfare increases was also examined. This showed a relative income poverty rate about three and a half percentage points below the priority to tax scenario. At the same time, financial incentives to work would also be affected: one in six unemployed persons would face a replacement rate of over 70 per cent under the priority to welfare scenario, as against one in nine under the priority to tax scenario.

In our view, the “poverty proofing” of budgetary policy needs to move away from the “conventional opening budget” as a benchmark to a more appropriate “distributionally neutral” benchmark. In doing so, it will need to develop more sophisticated simulation analysis, which can reveal more accurately the real trade-offs faced by policy-makers.

APPENDIX 3.1: IMPACT OF BUDGETARY POLICY ON INCOME DISTRIBUTION AND POVERTY

Our illustrative analysis of distributive effects builds on the scenario set out in Section 3.2 above. Prices and real incomes grow by 5 per cent each, so that nominal incomes grow by 10.25 per cent. The economy can be regarded as in steady state growth, with constant employment and unemployment rates.

We first examine how real disposable income growth varies across the income distribution under the conventional benchmark policy (simply freezing policy in nominal terms) and under the wage indexation alternative. Family units are ranked from poorest to richest, based on income per adult equivalent (where the first adult counts as 1, other adults as 0.66, and children as 0.33). Families are then divided into 10 equal sized groups or “deciles”, and the growth in income for each decile is shown.¹³

If, on the other hand, the conventional opening budget were actually implemented, this would be far from neutral in its effects across the income distribution. With tax and welfare parameters frozen in nominal terms, there would be real income losses for those dependant on welfare. Higher up the income distribution, the average tax rate would rise because of the progressivity of the income tax system i.e., there would be “fiscal drag” due to both inflation and real growth in incomes. As a result, growth in real disposable incomes would be somewhat below real earnings growth in the upper income groups.

¹³ Third-level students, aged over 18, are treated as separate tax and benefit units by the tax and social welfare systems. In earlier analysis (e.g., Callan *et al.*, 1999) distributive analysis has treated these students as separate “tax units”. In this chapter, where third level students are living with their parents, and the students have no independent income, they are grouped with their parents in what is termed an “income-sharing unit” for the purposes of the distributive analysis.

Figure A3.1: Real Income Growth under Alternative Budgetary Benchmarks, Illustrative Scenario

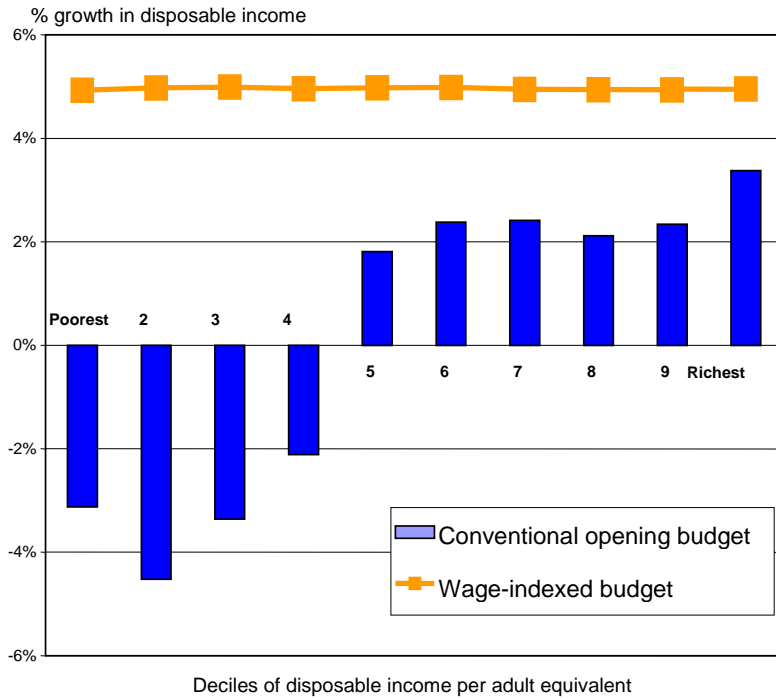
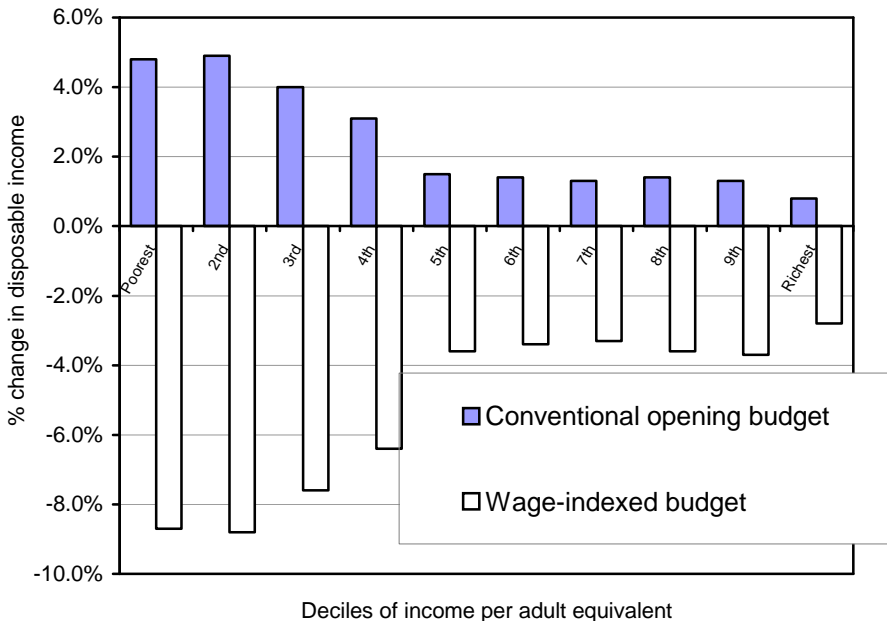


Figure A3.2: Change in Disposable Income under a Price-Indexed Budget, Measured Against Alternative Budgetary Benchmarks, Illustrative Scenario



Suppose that the actual budget simply indexed tax and welfare parameters in line with prices. What would be the distributive impact of this policy? The answer depends critically on the benchmark used for assessing the impact, as shown in Figure A3.2. Measured against the conventional opening budget, the price-indexed budget is shown as producing gains for all income groups, with the greatest gains for the poorest income group, and the size of the gain declining as income rises. Measured against the wage-indexed budget, the picture of the distributive impact is reversed. All income groups lose, with the greatest losses for those at the bottom of the distribution, and losses declining as income rises. These differences in the measurement of policy impact go back to the very different impacts of the benchmarks themselves: the conventional opening budget would see real disposable incomes rise for the top half of the income distribution, while falling for those in the bottom half. A wage-indexed budget would see equal proportionate gains for both top and bottom.

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