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POLICY PAPER

Inequality and the Crisis: The Distributional Impact of Tax Increases and Welfare and Public Sector Pay Cuts*

TIM CALLAN
Economic and Social Research Institute, Dublin

BRIAN NOLAN
University College Dublin

CLAIRE KEANE
JOHN R. WALSH
Economic and Social Research Institute, Dublin

Abstract: The economic crisis impacts directly on the distribution of income via unemployment and private sector wages, but the way policy responds in seeking to control soaring fiscal deficits is also central to its distributional consequences. Having sketched out the background in terms of inequality trends during Ireland's boom and the channels through which the recession affects different parts of the income distribution, this paper investigates the distributional impact of the government's policy response with respect to direct tax, social welfare and public sector pay using the *SWITCH* tax-benefit model. This provides empirical evidence relevant to future policy choices as efforts to reduce the fiscal deficit continue.

I INTRODUCTION

Ireland's economic crisis has had a direct and severe impact on the numbers employed in the private sector, with the most obvious "losers" being the newly unemployed. Rates of pay in the private sector have also been affected, with substantial reductions in some sectors. However, the way policy

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responds to the fiscal deficit by raising taxes and cutting public spending is also central to the distributional consequences. Budgets for 2009 and 2010 implemented substantial increases in direct taxes, primarily via the introduction of a new levy and the doubling of the Health Contribution. Social welfare payments were increased in 2009, and then cut for those of working age in 2010, particularly the young unemployed. Public sector workers saw their take-home pay cut by a new pensions levy[1] and then by significant cuts in nominal pay rates. This paper focuses mainly on how this wide-ranging and unprecedented set of policy measures affected families at different income levels, using the *SWITCH* tax-benefit simulation model based on a representative sample of the population.

As background, we begin in Section II by sketching out how inequality evolved during Ireland's boom and the channels through which the recession would be expected to affect different parts of the income distribution. Section III then describes the changes in tax and welfare policy implemented in 2009 and 2010 and analyses their distributional impact using conventional tax-benefit simulation model analysis. Section IV focuses on the public sector pension levy and pay cuts, and uses the tax-benefit model structure to analyse their distributional impact. Finally, Section V discusses the implications for public policy in responding to the crisis.

II INCOME INEQUALITY IN BOOM AND BUST

How would one expect the degree of income inequality to change as the economy moves through a boom and then into deep recession? In each case, some of the effects and channels of influence may be less obvious than others. Focusing first on the boom, the impact via increased profits towards the top may be offset by the effects of falling unemployment towards the bottom. Rapid economic growth may also be accompanied by increasing inequality in earnings, but this is not always the case.

The degree of income inequality can be summarised using measures such as the Gini coefficient, Atkinson's inequality measure, the Theil coefficient, and the ratio of the 90th to the 10th percentile (for a discussion see Cowell, 2008). The figures available for Ireland over time are from different sources and sometimes on different bases, and need careful interpretation; for an in-depth treatment see Nolan and Smeeding (2005). Broadly speaking, as Table 1 shows, summary inequality measures calculated in the most harmonised

[1] While officially termed the "Pension Related Deduction" (PRD), it is more commonly known as the (public service) pension levy.

way from the most directly comparable household surveys have been rather stable going back to the late 1980s (see Nolan *et al.,* 2000; Nolan and Smeeding, 2005; Nolan, 2009, and the Central Statistics Office's releases on data from EU-SILC, most recently Central Statistics Office, 2009).

Table 1: *Summary Income Inequality Measures, Ireland 1987-2008*

Year	*Gini Coefficient, Disposable Income (Equivalised)*
1987	0.31
1994	0.31
2000	0.32
2004	0.32
2005	0.32
2006	0.32
2007	0.32
2008	0.31

Sources: 1987 calculated from survey carried out by the Economic and Social Research Institute (ESRI), see Nolan *et al.* (2000); 1994, 2000 calculated from the Living in Ireland Survey; 2004-2008 published by Central Statistics Office from their annual SILC survey, most recently CSO (2009).

Summary measures may mask important changes occurring in different parts of the income distribution, so one can also look at decile shares – the share of total income going to those in the bottom 10 per cent, next 10 per cent etc. Over the boom years the available household surveys suggest a modest increase in the share going to the top 10 per cent, but mostly balanced by a decline for others in the top half rather than further down the distribution.

Household surveys may have particular difficulty right at the top of the income distribution, and estimates based on data from the Revenue Commissioners suggest that the share of total income going to the top 1 per cent increased sharply from about 6 per cent to 10 per cent over the 1990s (Nolan, 2007). Even larger increases in top income shares have been revealed by similar studies for countries such as the USA and the UK, but in the Irish case it is particularly difficult to disentangle the effects of changes in reporting behaviour.

Another important feature of Ireland's boom was the increase in married women's labour force participation. While in some countries this has been concentrated among women married to higher-earning men, in the Irish case it was as common for those married to lower-earning men, and thus did not have a disequalising effect on the household income distribution. It also seems that the boom was not accompanied by the pronounced increase in earnings inequality and widening gap between high versus low levels of education seen in the USA and the UK (Barrett, Fitz Gerald and Nolan, 2002; McGuinness, McGinnity and O'Connell, 2009; Nolan, Voitchovsky and Maître, 2010). Strong demand for low-skilled employees appears to have kept up their returns, while returns for the highly educated were limited by increases in supply, via new graduates return migrants and immigrants. As far as social welfare is concerned, rates initially lagged behind average earnings but subsequently made up much of the ground, although not increasing by as much as average household income boosted by increasing numbers at work.

Data are not yet available to allow us to track the impact of the recession on income inequality, but a complex set of channels of influence can be traced out (see Nolan, 1987, 2009). Rapidly increasing unemployment is having a negative impact in the bottom half of the distribution,[2] while sharply declining profits may reduce the share going to the top, though some pensioners relying on capital income will also be hit. Much depends on the relationship between incomes from work and social welfare support, both for the unemployed and other working-age welfare recipients and for pensioners. In the rest of the paper we focus specifically on two particularly important aspects of the policy response to the crisis so far: the impact of changes in the structure and parameters of the direct tax and cash transfers systems in 2009 and 2010, and the cuts in public service pay implemented in 2009.

III THE DISTRIBUTIONAL IMPACT OF THE TAX AND WELFARE RESPONSE

Changes to taxes and social transfers constituted one of the main planks in the government's response to the fiscal crisis. The Budget for 2009 (announced in October 2008) brought in a new income levy with none of the allowances or reliefs that apply in the standard income tax system (although social welfare receipts were exempt). The special "emergency" Budget in April 2009 then doubled the rates for this income levy, to 2 per cent applying to income in the range from €15,028 to €75,036, 4 per cent from €75,036 up to €174,980, and 6 per cent to income in excess of that figure. In addition, the long-standing health levy was also doubled to 4 per cent (5 per cent for amounts over €75,036), and the ceiling below which pay-related social insurance contributions were payable was increased from €52,000 to €75,036.

[2] Unemployment has risen from 4.5 per cent in mid-2007 to 14 per cent in mid-2010, while the number in long-term unemployment has almost trebled.

Social welfare rates for 2009 were increased by about 3 per cent, despite falling inflation, but savings in social welfare spending were initially sought by not paying the usual double payment at Christmas, by cutting the rate of income support for the newly-unemployed aged under 21 years, and by halving and then abolishing the universal Early Childcare Supplement payment for children under 6 years.[3] The Budget for 2010 (presented in December 2009) then announced reductions in nominal rates of social welfare support, of the order of 4 per cent, for recipients of working age but not for pensioners. Unemployment payments for those aged 21-25 years were also sharply reduced. In addition, the rates of universal Child Benefit were cut by 10 per cent, although those dependent on social welfare received a compensating increase in their weekly payment.

The distributional impact of these tax and welfare changes can be analysed using the *SWITCH* tax-benefit simulation model (on which see for example, Callan *et al.*, 2009a). The aim is to assess the distributional impact of tax and welfare changes against a benchmark which is "distributionally neutral", rather than against one in which tax and welfare parameters are frozen in nominal terms.[4] A budget indexed to wage growth has been shown to approximate such a neutral benchmark, and is what we use here, but in the very unusual situation that average earnings actually fell, by about 4 per cent over the two year period 2009-2010.

Figure 1 shows the results of such a distributional analysis for the tax and welfare changes in these three Budgets taken together. The impact on those at lowest incomes differs depending on whether the family or the broader household is taken to be the income sharing unit.[5] The poorest family units see a drop in income of almost 5 per cent, but the poorest decile of households does not see a corresponding fall, because many of the young unemployed affected by the sharp reduction in unemployment assistance are living with their parents. There are substantial gains in average income for the third decile, which includes substantial numbers of those on social welfare pensions. There have been substantial falls for the top half of the income distribution, peaking at about 6 per cent for the top decile, reflecting the impact of the income levy and related tax changes.

[3] In partial replacement a scheme was introduced to provide support for a single year of pre-school education.

[4] For similar distributional analyses of earlier budgets see for example, Callan, Walsh and Coleman (2005) and Callan, Keeney and Walsh (2003); comparison with these shows that the impact of recent budgets has been remarkable in scale and direction.

[5] The family in this context is taken to be the nuclear family of single adult or couple plus their children aged under 18 years if any; the household, by contrast, is all individuals living together and sharing catering arrangements.

Figure 1: *Distributive Impact of Tax and Welfare Policy 2009-2010 (Relative to Indexation in Line with 4 Per Cent Fall in Wages)*

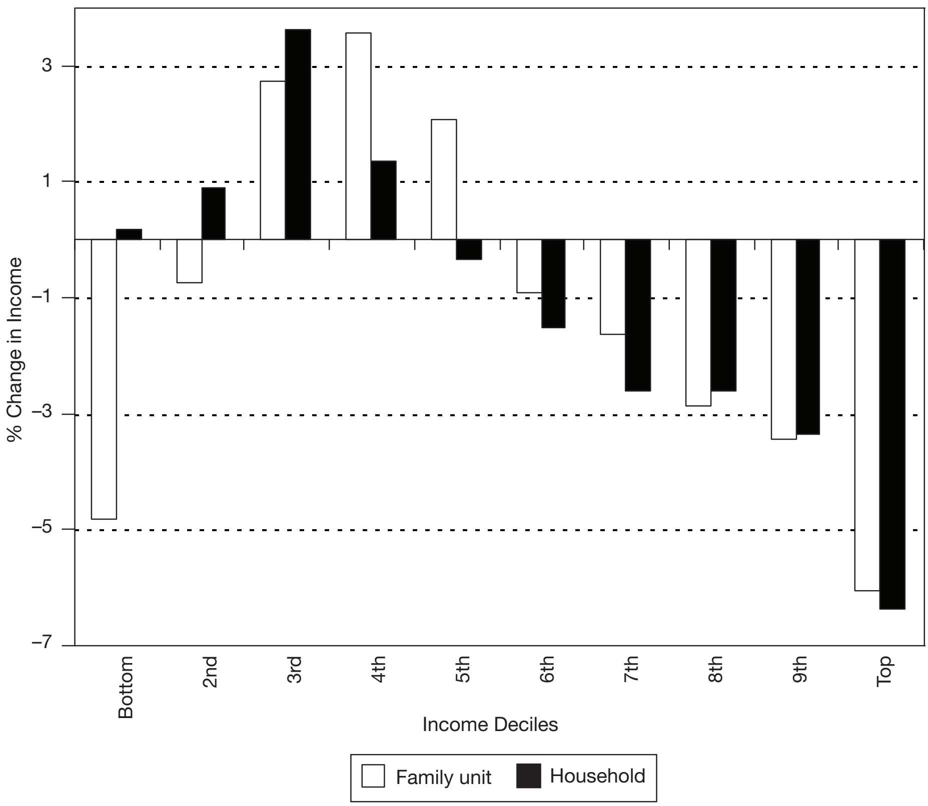


Table 2 shows the pattern of gains and losses on the basis of income source and family type. Those with employment income lose between 2½ and 3½ per cent of their disposable income if they have no children, and between 4½ and 5½ per cent if they have children. The tax and levy increases are the main factors affecting those without children, while those with children are, in addition, affected by the 10 per cent cut in universal child benefits. Working-age families depending mainly on social welfare incomes fared significantly better, reflecting the fact that welfare benefits were initially raised, and then cut, leaving them close to their initial levels. The retired do best, reflecting the fact that old age benefits were raised and not cut subsequently, while occupational pension incomes also typically did not fall.

Table 2: *Impact of Tax and Welfare Changes Across Family Types*

Family Unit Type	*% Change in Disposable Income*
Single Employed without Children	–2.5
Employed Lone Parent	–0.7
Single Earner Couple without Children	–2.3
Single Earner Couple with Children	–4.6
Dual Earner Couple without Children	–3.5
Dual Earner Couple with Children	–5.5
Single Unemployed without Children	–6.3
Non-Earning Lone Parent	1.1
Unemployed Couple without Children	2.6
Unemployed Couple with Children	2.5
Single Retired Tax Unit	5.3
Retired Couple	3.3
All Other Tax Units	0.8
All	–2.5

IV THE DISTRIBUTIONAL IMPACT OF PUBLIC SECTOR PAY CUTS

As difficult decisions with respect to taxation and welfare were being made, the issue of public sector pay also came centre-stage. It was argued that the deterioration in the public finances left the government with no choice but to reduce the public sector wage bill, that reductions in public sector pay help to restore competitiveness, and were warranted in any case because private sector pay was falling (on average) and public sector pay had got out of line during the boom.[6] This led first to the introduction of a public sector pension levy in early 2009 Budget, which exempted the first €15,000 of earnings but then charged rates of:

5 per cent on next €5,000 of earnings,
10 per cent on earnings between €20,000 and €60,000 and
10.5 per cent on earnings above €60,000.

The Budget for 2010 subsequently announced reductions in public service salaries as follows:

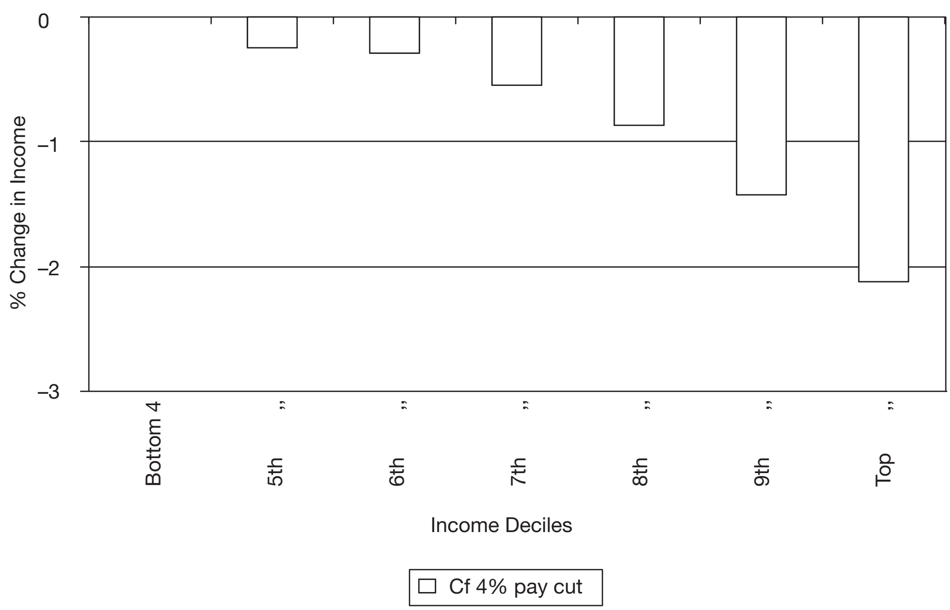
[6] Kelly, McGuinness and O'Connell (2009a, b) have identified a substantial and growing public sector wage premium using data from the National Employment Surveys of 2003 and 2006, but see also Central Statistics Office (2009), Geary and Murphy (2009).

5 per cent on the first €30,000 of salary
7.5 per cent on the next €40,000 of salary
10 per cent on the next €55,000 of salary

This produced overall reductions in salaries ranging from 5 per cent to just under 8 per cent in the case of salaries up to €125,000. Salaries above that level were to be reduced by more, though for senior civil servants when implemented this reflected mostly the abolition of bonuses rather than pensionable pay. Importantly, retired public servants receiving pensions linked to pay in the grade did not have their pensions cut in line with that pay.

In Figure 2 we look at the impact of the public sector pension levy and pay cuts on the total disposable income of each decile, compared with a 4 per cent cut in public sector wages – a "distributionally neutral" benchmark in which public sector workers experience the same wage reduction as the average private sector worker. As there are few public sector employees in the bottom 4 deciles of family unit income, we aggregate over these and find that the net impact on these deciles is close to zero. The proportionate fall in disposable income then rises gradually to about 1½ per cent at the 9th decile and just over 2 per cent for the top decile.

Figure 2: *Distributional Impact of Public Sector Pay Cuts (Relative to 4 Per Cent Pay Cut)*



If we look at the impact purely on those affected, rather than everyone in the decile, the losses were of the order of 1 to 2½ per cent for the small number affected in the lowest 4 deciles. Losses range from 2½ to 4 per cent for family units containing one or more affected workers in deciles 5 to 9, and were over 5½ per cent for those in the top decile.

V CONCLUSIONS AND IMPLICATIONS

The degree of inequality in the distribution of income, as conventionally measured using data from household surveys, was remarkably stable during Ireland's economic boom. While data do not yet allow the distributional impact of the recession to be seen, an important element will be the direct effect of policy measures implemented in response to the economic and in particular the fiscal crisis. Our analysis using the *SWITCH* tax-benefit simulation model shows that the income losses from the changes in direct tax and social welfare in 2009 and 2010 were most pronounced (in percentage terms) in the top half of the income distribution and were greatest for the top decile. This reflects the greater impact of the income levy and related tax changes on higher incomes, and the fact that the cuts in social welfare for those of working age were no greater than the fall in average earnings, the distributionally neutral benchmark used here. The other central component of the policy response, the reductions in public sector pay (via the pension levy and cuts in pay rates), were also seen to impact mostly on the top half and most strongly on the top decile. This reflects the fact that public employees are predominantly located in the middle and upper parts of the income distribution, and that both the pension levy and pay reduction were structured in a progressive fashion.

These findings are clearly relevant not just to assessment of the policy response to the fiscal crisis to date, but also to future policy choices as efforts to reduce the fiscal deficit continue. On the tax front, the intention to work towards a fundamental re-structuring of direct taxation has already been announced, with a new universal social contribution to replace employee PRSI, the Health Levy and the Income Levy. It is expected that the universal social contribution will operate with a very wide base and a relatively low rate, while income tax will have a progressive rate structure as at present. The distributional implications of such a fundamental restructuring will merit careful analysis. The recent Report of the Commission on Taxation also recommended introduction of a property tax and the restructuring of support for private pensions (on which see Callan, Keane and Walsh, 2009a, 2009b, 2010). The imperative to close the fiscal deficit provides a window of opportunity to restructure the tax system in a fashion that is not only more economically efficient but also more equitable.

To date public pensions have been protected from the impact of the recession, with the pensions of retired public servants not reduced when pay was cut (nor subject to the levy), while social welfare pensions were spared the cuts implemented for those of working age. Pensions of public sector retirees grew in line with the pay of public servants during Ireland's boom years, while social welfare pensions also increased substantially. The latter part of that boom has proved unsustainable, and incomes of workers and other social welfare recipients are adjusting to the changed circumstances. With further fiscal adjustment to come, the continuation of the insulation of pensioners may be increasingly open to question.

On the basis of the results presented here, cutting public service pay may appear an attractive policy from a purely distributional perspective. However, the medium to longer term implications must also be kept in mind. If pay rates in the public sector are not sufficient to attract and retain individuals with the qualifications and skills required to deliver good quality public services, people depending on those services – including the poor and disadvantaged – will suffer. It remains the case, though, that the public sector pay bill is key to controlling public spending, and can in turn only be addressed by reducing the number of public servants or their pay.

Finally, employment and pay in the private sector are of course central to the impact of the recession. From a public policy point of view, it will not be enough to strive to restore the economic environment in which job creation takes place, more active intervention is called for to address unemployment and effectively target those at greatest risk of long-term unemployment and scarring (as argued in Nolan, 2009). As far as pay levels in the private sector are concerned, as well as aligning general levels of pay to restore competitiveness, public policy may also become more focused than heretofore on pay and remuneration at the top, from both equity and efficiency perspectives.

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