The Great Recession, Austerity and Inequality: Evidence from Ireland

T. Callan[*], B. Nolan[†] C. Keane[‡], M. Savage[‡], J.R. Walsh[‡]

*Economic and Social Research Institute, TCD and IZA
†University College Dublin
‡Economic and Social Research Institute and TCD

Corresponding Author: tim.callan@esri.ie

Revised: October 2013

1. Introduction[1]

Ireland's national income fell by more than 10 per cent between 2008 and 2011, one of the lagest falls of all European economies in the Great Recession. In addition to the impact of a global downturn, Ireland was hit by the bursting of a property bubble, a very severe banking crisis, and the need to undertake a major fiscal adjustment. Combined, these factors led to borrowing costs on financial markets becoming unsustainable. In 2010, an Economic Adjustment Programme (commonly termed a "bail out") was agreed with the IMF, the EU and the ECB.

What were the consequences for inequality and for poverty? Did austerity policies in the areas of direct tax, social security and public sector pay give rise to greater inequality, or did they "lean against the wind" to offset other forces? These are the central questions examined in this paper. Ireland's response to the crisis has been widely seen as a "test case" for what is often described as the austerity approach. Here we focus on the income distribution consequences of the crisis and of the state's response, rather than on its merits or otherwise as a macroeconomic strategy: these consequences will be an important consideration in any overall assessment, and of relevance to other countries undergoing stagnation and fiscal 'correction'. To analyse these income distribution effects, we make use of the latest available microdata, notably the 2011 round of the Survey on Income and Living Conditions (SILC)). We also use the SWITCH tax-benefit model to identify the impact of austerity policies as distinct from the impact of the economic recession itself (Callan et al., 2012)

The macroeconomic and labour market context and central features of the fiscal policy response, are summarised in Section 2. Key elements include a rise in unemployment from about 4 per cent to 14 per cent; sharp rises in taxation; reductions and restrictions on welfare payments; and progressively structured reductions in public sector pay. Section 3 sets out how the overall distribution of income changed over the years 2008 to 2011, which saw sharp drops in employment and income. We also examine the impact on alternative measures of poverty.

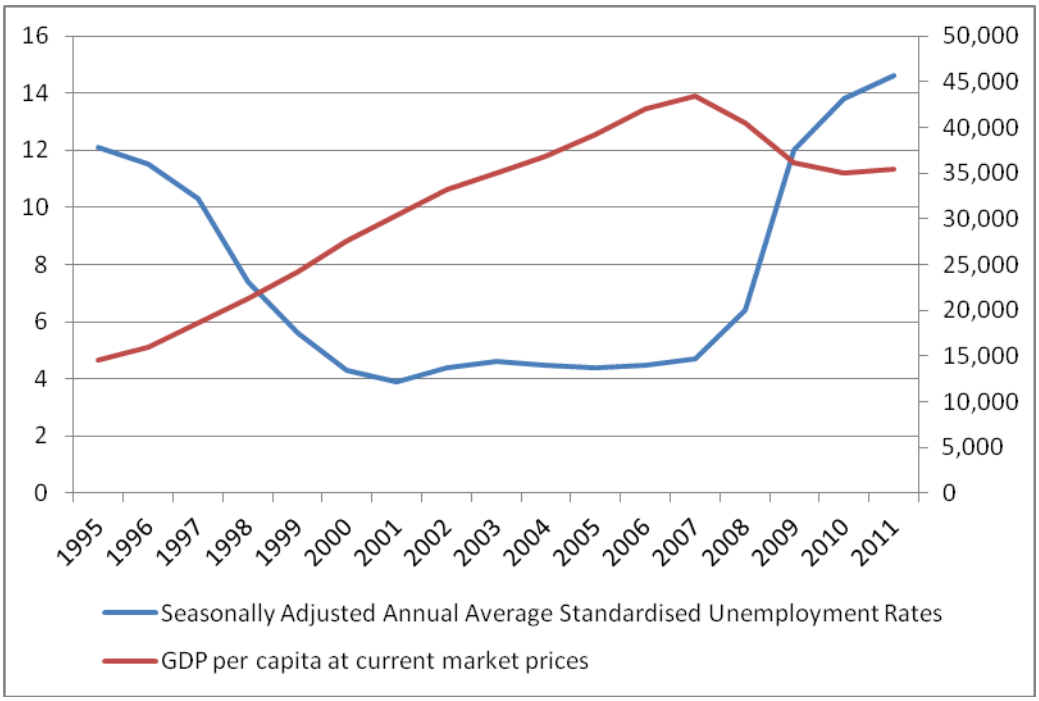
Section 4 explores the impact of austerity policies over this period, in the areas of direct tax, social security and welfare payments, and public sector pay. This helps to indicate how much of the total change in inequality is due to changes in tax and transfer policy, and how much is due to changes in market incomes – including the loss of income for those becoming unemployed. Overall conclusions are drawn together in Section 5.

[1] We are grateful to the Central Statistics Office for access to the SILC data. Thanks also to participants in seminars at Bonn, Dublin, Washington and Brussels for helpful comments. Responsibility for the analysis and interpretation of these data rests with the authors.

2. Macroeconomic Context and Policy Measures

This paper focuses on the impact of Ireland's experience of the Great Recession on the distribution of income. Prior to this period economic growth in Ireland was among the highest in the OECD (see Figure 1). The period 1994 to 2000 saw an annual average growth rate in real GDP of over 7 per cent. This growth was accompanied by sustained increases in the numbers in employment, rising from 1.2 million in 1994 to 2.1 million by 2007. Unemployment fell to just over 4 per cent in 2000 and remained around this level until 2008 (Figure 1). Net emigration, for long a feature of the Irish economy, was reversed as as significant numbers of Irish emigrants returned and immigrants from other countries were attracted to Ireland.

Figure 1 : Unemployment Rates and GDP per Capita, 1995-2011



Source: Central Statistics Office

Ireland's economy entered recession in 2008, and by 2010 GDP per capita had fallen by more than 13 per cent, while unemployment soared to almost 14 per cent. This scale of economic deterioration was driven by three main factors:

- The effects of worldwide recession on a small and very open economy, compounded by
- a dramatic collapse in property prices and in activity and employment in the construction sector, upon which the Irish economy had become heavily reliant, and
- a banking crisis whereby the Irish government was required to come to the aid of banks which were deeply exposed by the extent of their property-related lending.

Each of these factors contributed to a fiscal crisis, with tax revenues collapsing while increased unemployment led to greater demands on the welfare system. The banking crisis resulted in the government guaranteeing both investors and bondholders and led to unsustainable yields on Irish

bonds as government debt grew. These unsustainable yields led to the Irish government seeking a financial 'bailout' from the EU, the ECB and the IMF in 2010.

The nature of the recession, and in particular the severity of the downturn for the construction industry, has contributed to a sharp differential in the evolution of the male and female unemployment rates. The unemployment rates for men and women were similar, at about 4 to 5 per cent, for the years 2003 to 2007. By 2011, the male unemployment rate had risen by 13 percentage points, while the female unemployment rate had risen by about half that much.

What about developments in wages for those in employment? On average, there has been a small rise in hourly earnings over the 2008 to 2012 period, but there is a great deal of diversity across sectors. Wages fell by 5 to 6 per cent in public administration and defence, and in finance and insurance; but rose by 7 to 8 per cent for those in industry. Wages in public sector organisations were reduced first by via a 'Pension Related Deduction' (PRD), introduced in 2009, and later, in 2010 by a pay cut. Both the PRD and the explicit pay cut were progressively structured e.g.,. the pay cut involved a reduction of 5% on the first €30,000 of salary, 7.5% on the next €40,000 and 10% on the next €55,000. New entrants were also to be hired on salaries 10% lower than the level payable to current staff. The evolution of average wages in the public sector has also been affected by compositional shifts. For example, a policy of incentivized early retirement, made available to those aged over 50, may have removed from the payroll more of those with above average wages, thereby depressing average wages.

Fiscal austerity involved both tax increases and reductions in welfare payment rates. Looking first at the taxation side, income tax rates were unchanged but other ways of increasing the direct tax 'take' were exploited:

- A new levy on income was introduced in 2009, soon doubled and an existing income levy to fund health services was doubled. Both levies were then replaced in 2011 by a "Universal Social Charge" (USC) – a new form of income tax, with exemptions for annual income below €4,004 and a progressive structure above this level with rates of 2%, 4% and 7%.
- The income ceiling above which no further social insurance contributions were payable was first raised substantially, and then abolished in 2011.
- In 2011 the standard rate band of income tax was reduced (from an annual €36,400 to €32,800) as were the main tax credits.
- A €200 per annum charge on non-principal private residences was introduced in 2009 as was a flat-rate 'household charge' or property tax of €100 in 2011, both payable by the owner of the property. This was the precursor to a full scale value-related property tax coming into force in mid-2013.
- Tax relief on pension contributions was also reduced, with the annual earnings limit for determining maximum tax-relievable contributions down to from €275,239 in 2008 to €115,000 by 2011, while employee pension contributions also became liable for PRSI and the USC.

- indirect taxes were increased, with a rise in the standard rate of VAT and a new carbon tax

On the social welfare side, income support rates were actually *increased* in 2009. The Budget for that year was brought forward from December to October 2008, and the full scale of the problems was not yet evident. However, the Budgets of 2010 and 2011 then reduced the rates of support provided by most social welfare schemes applicable to those of working age, and made deeper cuts in the universal Child Benefit payment. Payments to young unemployed people were reduced very substantially. Rates of payment for old age pensions, however, have remained at their 2009 levels to date, with some reductions in near-cash benefits.

3. Income Inequality, 2008 to 2011

We look first at the what has happened to the Gini coefficient, the most widely used measure of income inequality, over this turbulent crisis period.[2] Table 1 shows Gini coefficients for disposable income (per adult equivalent) for the years 2005 to 2010 derived from the SILC surveys carried out each year.

Table 1: Gini Coefficient Equivalised Disposable Income Among Persons Ireland 2005-2010

	SILC
2005	0.324
2006	0.324
2007	0.317
2008	0.307
2009	0.293
2010	0.316
2011	0.311

Sources: SILC: Survey on Income and Living Conditions, 2011 & revised 2010 results ISSN 2009-5937 and www.cso.ie

Notes: The equivalence scale used here, and elsewhere unless otherwise stated, is 1 for the first adult, 0.66 for other adults (aged 14 or over) and 0.33 for each child (aged under 14). This is the scale used in the official measure of poverty in Ireland, and is close to that implied by the structure of social welfare payments

Whether taking 2007 or 2008 as the end of the bubble/start of the recession, the Gini coefficient is very similar at that point and at the latest available date, 2011 – a slight fall from the 2007 level, and a slight rise from the 2008 level. Indeed, over a longer period (1994 to 2009) which includes the strong growth of the Celtic Tiger era, Nolan *et al.* (2012) show that the Gini coefficient remains in the range 0.31 to 0.32 for almost all years. Against this backdrop, the fall in the Gini to 0.29 in 2009, the

[2] Data are drawn from the Central Statistics Office's Survey on Income and Living Conditions for various years. Household income is adjusted for the size and composition of its members – i.e. 'equivalised'. The equivalence scale is the one used in Ireland's official measures of poverty: 1 for the first adult, 0.66 for other adults, and 0.33 for children aged under 14. This approximates the scale used in social welfare payments.

first year in which the full effects of the recession were felt, is quite striking: this is the lowest level the Gini has reached in Ireland, by some measure, over the years since 1980.

Data on decile shares calculated from SILC and presented in Table 2 show that the stability of the Gini coefficient masks some changes in the pattern of income distribution. Between 2008 and 2011, the shares of both top and bottom deciles fall by 0.5 per cent of income . (Of course, this implies a much sharper fall in the average income of the bottom decile as will be seen). Increases in shares are found for the 7th, 8th, and especially the 9th decile. Other deciles see little or no change in their share of overall income.[3]

Table 2: Decile shares of equivalised disposable income among persons, 2008-2011

Decile	2008	2011	% change in average real income, 2008-2011
	Incomes hare		
	%	%	
Bottom	3.5	3.0	-18.4
2	5.0	5.0	-7.3
3	5.9	6.0	-5.4
4	6.8	6.9	-4.5
5	8.0	7.9	-6.2
6	9.2	9.2	-5.5
7	10.2	10.5	-5.2
8	12.2	12.4	-4.4
9	14.7	15.2	-4.1
Top	24.5	24.0	-11.4
	100.0	100.0	-7.8

Source: Authors' analysis of SILC data 2008 and 2011.

The overall fall in income was just under 8 per cent between 2008 and 2011, but the greatest losses were strongly concentrated on the bottom and top deciles. On average, the real income of the lowest income decile in 2011 was 18 per cent lower than in 2008, while the average income of the top decile was 11 per cent lower. Changes in deciles 2 to 9 were less severe, ranging between 4 and 7 per cent – below the average percentage loss. Section 4 will examine whether policy changes contributed to this pattern, or have been "leaning against the wind" of other economic forces.

When interpreting these results, one must bear in mind that comparisons of corresponding deciles in different years are not comparing the incomes of the same people, but are instead comparing what might be termed "income positions" e.g., the incomes of the poorest 10% in each year. Changes in composition (e.g., more of the bottom decile being unemployed, or self-employed with

[3] Against this broad stability over the full period, there were significant shifts on a year-by-year basis, which are examined in Callan et al. (2013).

very low incomes in the recession) can also affect the observed patterns, and further research is needed to identify the contribution of such compositional factors.

The picture of changes in the income distribution can be complemented by a brief summary of changes in measures of poverty (Table 3) . The percentage of individuals falling below 60% of median equivalised income (the Laeken indicator for "at risk of poverty") was roughly stable from 2008 to 2010, close to 14½ per cent, but rose to over 16 per cent in 2011.The elderly (aged 65 plus) were the main exception to this pattern, with a substantial net fall in the risk of poverty.

Table 3 shows how average real incomes declined sharply over the recession. The EU's "anchored" poverty measures examine poverty lines which are set in the usual way (60% of median income) for a base year, and then simply increased in real time. This is of particular interest in the present context, where real incomes in 2004 and 2011 are very close to each other (within about 1%). Analysis on this basis, with a poverty line anchored in 2008 shows the risk of poverty on this anchored basis rising sharply from about 14 per cent to 21 per cent.

Table 3: Real Incomes and Risks of Poverty, Ireland 2008-2011

Income	2008	2009	2010	2011
Mean real equivalised disposable income (Index, 2008=100)	100	100.2	96.0	90.7
	%	%	%	%
At risk of poverty rate (60% of median income in each year)	14.4	14.1	14.7	16.0
At risk of poverty rate anchored at 2008 (60% of 2007 median income, in real terms)	14.4	15.6	19.6	21.2
Consistent poverty rate (% below 60% of median income in each year, and experiencing basic deprivation)	4.2	5.5	6.3	6.9

4. The Role of Taxes, Transfers and Public Sector Pay Policies

There is strong interest in many countries in assessing the distributional impact of austerity measures. Traditional decomposition methods focus on changes between observed outcomes in a base year, with its associated tax/transfer policy, and an end-year, with its associated policy. Such approaches may, for example, identify an increase in social assistance income, but cannot say if this arises from increased generosity of benefit payments or from an automatic increase in the incidence of transfers as unemployment rises. Bargain and Callan (2010) propose a decomposition which has particular advantages in addressing such questions. The decomposition partitions the total change into a part which reflects changes in policy, and all other sources of change. A counterfactual policy designed to be distributionally neutral plays a key role: this is simply the base year policy, indexed by the growth or decline in a broad measure of income.[4] The impact of policy change is then measured by estimating inequality measures under this counterfactual "distributionally neutral" policy and under actual policy, as simulated using a tax benefit model. Where possible this is done for both base year and end year data: the average of the two can be interpreted as a Shapley value decomposition.

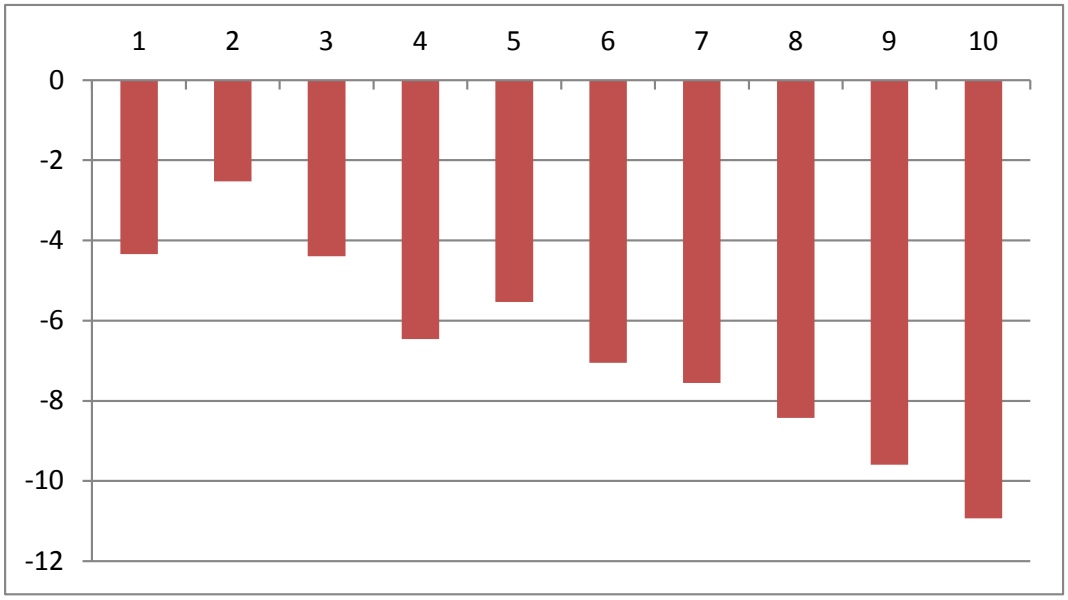
Work along these lines is currently under way (Bargain et al., 2013). Figure 4 gives a broader picture of the impact of policy over the full 2008 to 2011 period. Here the analysis is based on 2010 data, and on a "distributionally neutral" policy which indexes 2008 policy in line with average weekly earnings over the period. The analysis includes the main changes in income tax, social insurance contributions and the introduction of income levies as well as changes in benefit payment rates. In addition, the modelling includes the impact of reductions in public sector pay, which were progressively structured.[5]

Over the full 2008 to 2011 period, policy had a negative impact on incomes at low, middle and high incomes. The greatest percentage losses were experienced by those with the highest incomes, and losses in the top half of the distribution increased with income. Losses for the bottom half of the distribution were smaller although decile 1 lost more than decile 2 A key factor in therelatively low losses for deciles 2 and 3 is that payment rates for pensioners were held constant, while there were explicit cuts in payment rates for those of working age, and deeper cuts in Child Benefit.

[4] When data for base year and end year are available, the change in gross income provides a natural indexing factor; where income growth must be based on forward looking estimates, changes in weekly earnings are often used.

[5] These reductions include a "Pension Related Deduction"and explicit cuts to pay.

Figure 2: Impact of Income Tax, Welfare and Public Sector Pay Policy Changes, 2009-2011 - percentage change by decile of equivalised disposable income



5. Conclusions

Summary measures of inequality have been broadly stable in Ireland over a long period, from the early 1990s through to the start of the current recession. There were, however, some significant shifts on a year-by-year basis in the years 2008 to 2011, during which average incomes fell sharply as Ireland experienced the full force of a major recession. The year by year pattern shows a fall in inequality in 2009, reversed in the following years. Some of this is directly attributable to the timing of policy changes, as 2009 saw sharp increases in income-related taxes, together with an increase in welfare payment rates. Later years saw more emphasis on expenditure cuts, and less on income-based taxes. Over the full period 2008 to 2011 the major changes have involved losses for both bottom and top deciles, with gains in income shares focused on the rest of the upper half of the distribution.

What of the impact of policy changes in the areas of direct tax, welfare and public sector pay? The SWITCH model permits analysis of this issue to be extended to cover the 2008 to 2011 period, and finds that policy changes were structured in a broadly progressive manner. An exception to this was the bottom decile, whose losses were greater than those of the 2nd decile. The pattern of losses in the bottom half of the distribution reflected the fact that payment rates for benefits to those of working age were reduced over the period, whereas payment rates for pension benefits were increased in 2009 and then held constant. Thus, the 2nd and 3rd deciles, which contained higher proportions of pensioners than other deciles, experienced relatively low losses.

Overall, the distributional impact of Ireland's austerity measures is strongly influenced by increases in income-related taxes which were concentrated in 2009. In part, this reflects the fact that income-related taxes had been reduced to relatively low levels by that point, which meant that there was some scope for them to rise. However, Ireland can no longer be

regarded as a country with low income taxes: the income tax burden as a share of GNP is now similar to that in the UK and not far from that of Germany.[6]

[6] See Callan and Savage (2013) for details.

References

Abramovici, G., 2006. “Attempt of reconciliation between ESSPROS social protection statistics and EU-SILC”, Eurostat and Statistics Finland Methodological Workshop on EU-SILC, Helsinki, 7-8 November.

Atkinson, A.B. 1970. **“**On the measurement of inequality**”.** *Journal of Economic Theory* 2: 244-63.

Bargain, O. and T. Callan, 2010. "Analysing the effects of tax-benefit reforms on income distribution: a decomposition approach," *Journal of Economic Inequality*, Springer, vol. 8(1), pages 1-21, March.

Barrett, A. and S. McGuinness 2012 "The Irish Labour Market and the Great Recession" CESifo DICE Report 2/2012, pp.27-33

Bergin, Adele, Elish Kelly and Seamus McGuinness 2012 “Explaining Changes in Earnings and Labour Costs During the Recession” ESRI Economic Renewal Series Paper 9

Brewer, M. and L. Wren-Lewis 2012 “Accounting for changes in income inequality: Decomposition analyses for Great Britain, 1968-2009” ISER Working Paper Series 2012-17

Callan, T., K. Coleman and . and J.R. Walsh, 2006 “"Assessing the Impact of Tax/Transfer Policy Changes on Poverty: Methodological Issues and Some European Evidence" *Research in Labor Economics, Vol 25*

Callan, T. and M. Savage, 2013. “Taxes on Income: Ireland in Comparative Perspective” *Quarterly Economic Commentary*, Spring.

Nolan, B., B. Maitre, S. Voitchovsky and C.T. Whelan 2012 “Inequality and Poverty in Boom and Bust: Ireland as a Case Study”, GINI Discussion Paper 70.