ESRI Research Note

The Distribution of Income and the Public Finances

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The economic crisis, which began in 2008, has seen a dramatic change in circumstances for most of the population in Ireland. It is estimated that average personal disposable income per head has fallen from a peak of around €22,800 in 2008 to around €20,900 in 2014, a decline of 8 per cent[1]. The rate of unemployment, which averaged 4.7 per cent of the labour force in 2007, peaked at 14.7 per cent of the labour force in 2012 and it is forecast to average 11.5 per cent in 2014. Thus most of the population have suffered a serious decline in living standard but the decline has been most acute for those who lost their jobs.

Nolan, *et al.*, 2014, and Callan *et al.,* 2013b, document developments in the distribution of income in Ireland in the period to 2011. They show how the Gini coefficient, the most commonly used summary measure of income inequality[2], has fallen during the crisis and remains below the levels of the peak of the boom, indicating a reduction in income inequality. In this case the measure is calculated using data for equivalised disposable income per person, including the effects of taxation and social welfare payments. The latest data for 2012 from the CSO EU SILC are consistent with this picture.

This reduction in income inequality is a result of a combination of factors arising from the crisis, some of which acted to increase inequality and others to reduce it. As discussed below, the bursting of the property market bubble affected those at the top of the income distribution, especially those who earned most of their income from property related activities, resulting in a big fall in numbers of high earners, reducing income inequality. The massive rise in numbers unemployed in the period to 2012 moved a lot of people towards the bottom of the income distribution, tending to increase inequality. However, the maintenance of the welfare floor relatively unchanged[3], in spite of the crisis, provided significant support for this group of people.

[1] These data are based on the latest National Accounts and the current QEC forecast. Personal disposable income is forecast taken from this QEC for 2014 (and from the national accounts for 2008) and it is divided by the population forecast underlying the QEC to arrive at average personal disposable income per head. If allowance is made for the fall in prices over that period the fall in real personal disposable income was around 4 per cent.

[2] Summary measures of income inequality place differing weights on inequality at different points in the income distribution; for this reason it is advisable also to examine changes in income shares for different income groups.

[3] Welfare rates for non-pensioners were cut but prices also fell, helping preserve the real value of payments.

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Callan *et al.*, 2013, have carried out a detailed study of the effects of discretionary changes in taxation (including indirect taxes), public service pay and welfare payments on the distribution of income in Ireland. They have shown how discretionary changes in taxes and welfare payments have also modified the outcome for different income cohorts. They show that changes in taxes and benefits tended to have the biggest negative effect on the top (-15 per cent) and bottom deciles (-12.5 per cent) of the income distribution but that all deciles suffered a loss of at least 10 per cent in disposable income as a result of discretionary changes in taxes, transfers and public service pay.

As discussed in Nolan *et al.*, 2014, EU SILC may not provide a very good representation of incomes at the very top of the income distribution and the Revenue Commissioners' data are useful in looking at the numbers of people on really high incomes. The Revenue Commissioners' data for the years 2007 and 2011 (the latest year available) show that for those earning over €100,000 a year there was a very big reduction in both their numbers and their average income over that period. The number of taxpayers with incomes over €100,000 fell by 14.7 per cent between 2007 and 2011 (Table 1). The fall was particularly pronounced for the highest income band – those earning over €275,000- where numbers in that income bracket fell by over 28 per cent. In addition, average income of those in the highest income bracket also fell by over 15 per cent. As a result, total income of those earning over €100,000 fell by 22.6 per cent over the four years.

TABLE 1 Revenue Commissioners' Data, change between 2007 and 2011

Income Range	Number of Taxpayers	Average Income	Total Income
100-150	-12.6	-0.3	-12.8
150-200	-13.0	0.0	-13.0
200-275	-15.7	-0.2	-15.9
275+	-28.4	-15.3	-39.4
100+	-14.7	-9.3	-22.6
All Taxpayers	-13.4	-0.6	-13.9

As those earning over €100,000 paid 46 per cent of all income tax in 2007 (while accounting for 25 per cent of income), this very big fall in the numbers of really high earners had a major impact on tax revenue. In 2011, in spite of a rise in the average tax rate for all taxpayers, the proportion of income tax coming from this group fell to 43 per cent of all income tax. Thus the big fall in numbers of high earners meant that more of the burden of income tax had to be carried by those on middle incomes.

FIGURE 1 Gini Coefficient before Direct Taxation and Welfare Payments

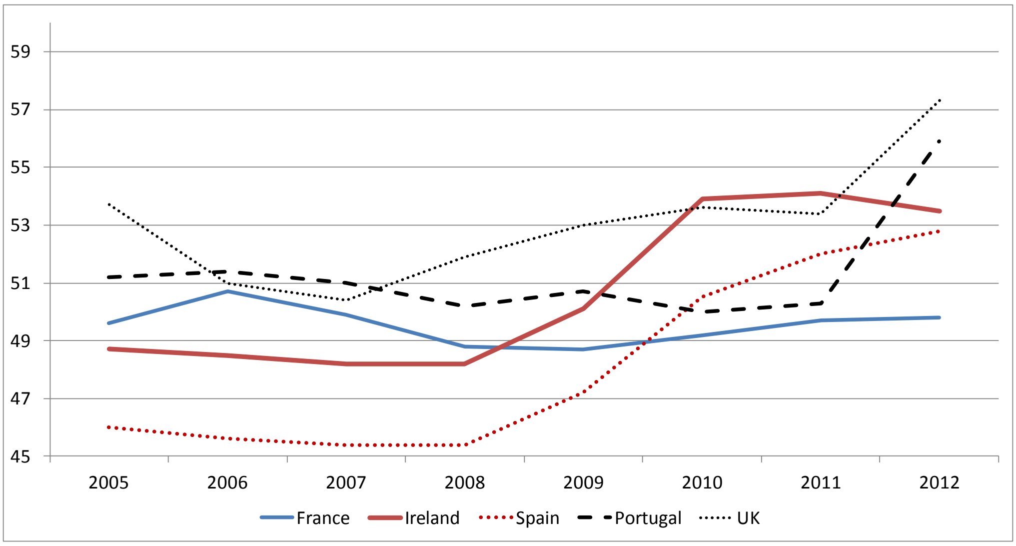
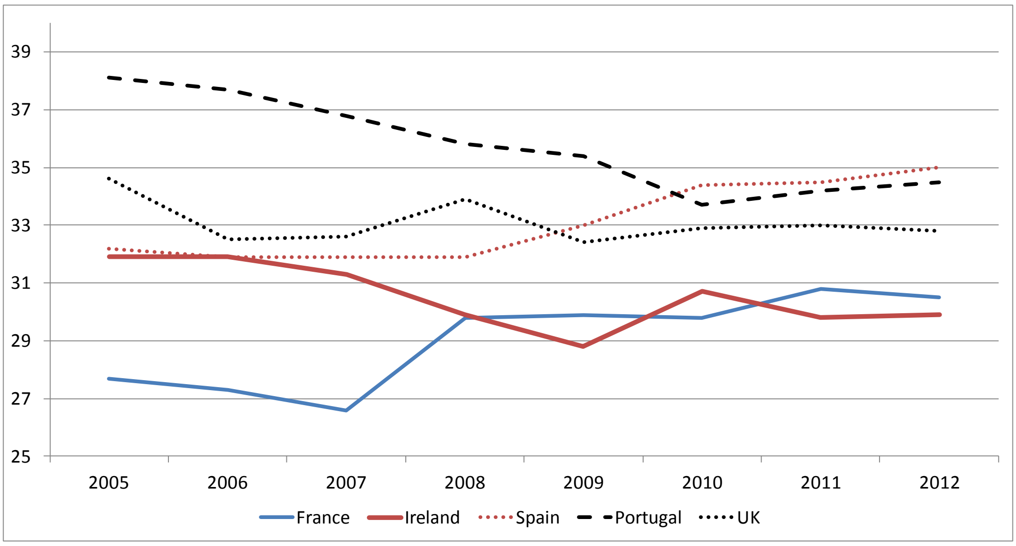


FIGURE 2 Gini Coefficient Including Direct Taxation and Welfare Payments



Eurostat shows comparative data on the Gini coefficient for all EU countries using a slightly different basis to that used in the CSO publication. However, these data have the advantage that they are comparable across countries. Using these data, it is interesting to compare the impact of the recession on the distribution of income in Ireland compared to that in some other EU countries, and also to consider the impact of public policy, acting through the tax and welfare systems, in moderating that change.[4]

[4] Here only taxes on income are taken into account whereas Callan, et al., 2013a, take account of changes in other taxes, including indirect taxes, capital taxes and property taxes, as well as public service pay and changes in certain other services.

Using the Eurostat data, Figure 1 shows the Gini coefficient for France, Germany, Ireland, Spain, Portugal and the UK, for income before taxation and before income from welfare payments. These data reflect the effects of market forces affecting pre-tax incomes through changes in employment and wage rates. Figure 1 shows that there was a significant rise in income inequality measured in this way in Ireland, Spain and the UK over the crisis years. Beginning in 2009, inequality rose rapidly in Ireland and Spain, peaking in the latest year for which data are available, 2012. In the case of Portugal the rise in inequality occurred later but was, nonetheless, also very substantial.

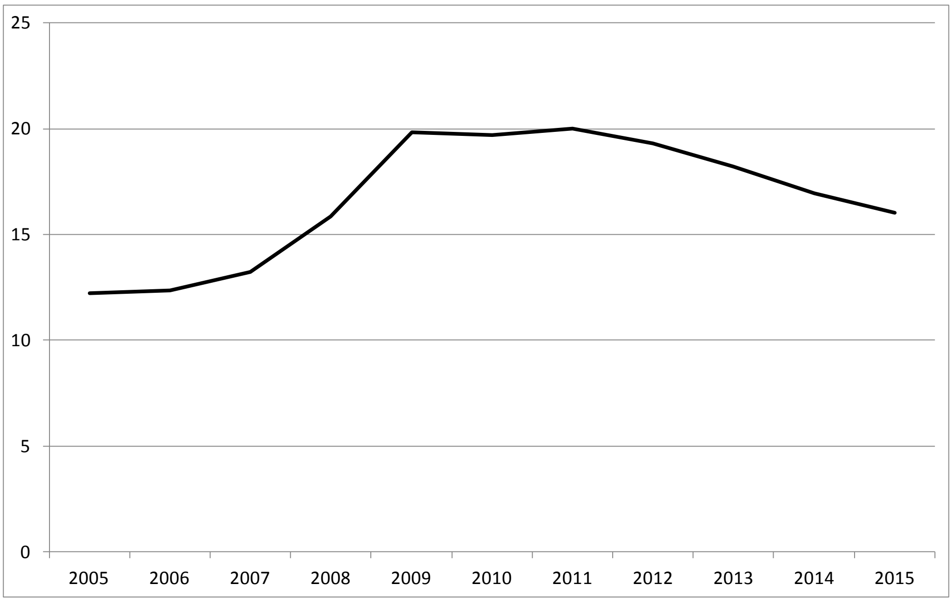
Also using Eurostat data for income, Figure 2 shows the Gini coefficient for the same range of countries as are covered in Figure 1 after the effects of taxes on income and welfare payments are taken into account,. In this case the Gini coefficient, not surprisingly, is very much lower for all countries, reflecting the major redistributive effect of public policy on tax and welfare across the EU. The effect of public policy in modifying the distribution of income results from both discretionary changes in that policy but also, much more importantly, from the "automatic stabilising" effects of existing policy: even if rates of welfare payments are held unchanged, with a big increase in numbers unemployed there is a big increase in public expenditure on welfare payments.

When allowance is made for the effects of public policy, so defined, it can be seen that the pattern of change in the distribution of income over the crisis years is now rather different. As discussed above, the effect of public policy in Ireland, acting through the tax and welfare systems, has been to produce a significant fall in the Gini coefficient in the crisis years 2008-2012, resulting in a more equal distribution of income than before the crisis began. A rather similar outcome is also shown for Portugal. However, for France the combined effect of the crisis and of public policy was to produce an increase in inequality. In Spain the increase in inequality in the years after 2008 is quite marked as public policy only partly offset the trend in market income shown in Figure 1. For the UK the effect of public policy was to leave the distribution of income in 2012 roughly unchanged compared to 2007.

The Irish experience and that of Portugal stand out as being exceptional; public policy more than reversed the effects of market forces on the distribution of income, resulting in greater equality in the distribution of income. As shown by Callan *et al.,* 2013a, the effects of discretionary changes in public policy made only a limited contribution to offsetting the effects of market forces. Instead, it was the crucial role of the automatic stabilisers in the tax and welfare systems which played a major role in this outcome.

Another indicator of the important role played by the welfare system, in promoting an equitable sharing of the burden of adjustment, is the proportion of the population who would be at "risk of poverty" if all social transfers were excluded. In 2005, before the crisis began, the proportion was 40 per cent of the population. However, by 2012 the proportion was over 50 per cent (CSO, EU SILC, 2012). Thus the role of the welfare system in promoting a more equitable distribution of resources has increased substantially because of the crisis.

FIGURE 3 Government Transfers as a Percentage of GNP



Maintaining the welfare system largely unchanged, in the face a huge increase in numbers depending on the system, imposed a very big burden on the public finances. As shown in Figure 3, in 2007 government transfers (social welfare payments) amounted to 13 per cent of GNP. However, with the more than trebling in the numbers of unemployed, the bill for transfers rose to 20 per cent of GNP by 2011. While it has now fallen back to around 17 per cent of GNP, with the fall in the numbers unemployed, this is still far above the level of the boom years. The need to fund this increase in welfare payments massively increased the problems with the public finances in the period 2008-2011. Already there needed to be a very big increase in taxation and dramatic cuts in expenditure to eliminate the very large deficit. To make room for the increased welfare bill the cuts in other areas of expenditure and the increases in taxation had to be even greater.

While the welfare system has played an important role in providing protection for those at the bottom of the income distribution, including those who lost their jobs during the recession, there is also a significant number of people in lower to middle income deciles who are suffering financial distress (Maître, Russell, and Whelan, 2014). This arises because of the housing crisis which has left a significant share of the population aged between 35 and 50 heavily indebted. As a result, some of these households are suffering from very high outgoings on their mortgages. Their financial distress is not picked up by the Gini coefficient.

Conclusions

The years since the bursting of the property bubble have involved an exceptionally painful adjustment process affecting all of the population. However, the fiscal policy options chosen by successive governments have contributed to an outcome where inequality in the distribution of income has actually fallen over the last five years. A major factor in ensuring this outcome was the maintenance of the welfare system, broadly unchanged, in the face of the massive increase in numbers depending on it. The need for increased taxes and for cuts elsewhere in the economy was greatly increased by the decision by successive governments to protect those on low incomes who were dependent on the welfare system. This policy choice was different from that adopted in many other EU countries, where income inequality increased significantly as a result of the crisis.

Even with increases in tax rates on high incomes, because of the heavy attrition among the cohort of high earners and the major reduction in the numbers employed throughout the economy, the bulk of the burden of increases in taxation had to be carried by those on middle incomes who were still in employment.

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