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# **The impact of the Great Recession on the incomes of households**

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# The impact of the Great Recession on the incomes of households

John Micklewright<sup>1</sup>

## Abstract

What are the impacts on household incomes of the major economic downturn that occurred in almost all OECD countries starting in late 2007? This paper is a condensed version of a public lecture given at the University of Melbourne in honour of R. I. Downing. It draws on a study of 21 rich countries using data from national accounts, household surveys, and other sources. The headline findings are that for most countries, there was little change in household income distributions in the two years following the downturn (2007–9), but in the subsequent five to ten years, much greater change is likely, as a result of governments' fiscal consolidation and the slow pace of economic recovery. The social safety nets developed since the Great Depression therefore played an important cushioning role in the short term.

**JEL classification:** D31, E24, E62, H50, H60, I32

**Keywords:** Great Recession, income distribution, living standards, households.

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## Acknowledgements

This is a condensed version of a public lecture presented at the University of Melbourne on 8 March 2012 in honour of R. I. Downing (<http://adb.anu.edu.au/biography/downing-richard-ivan-dick-10045>). The lecture draws on a project organised by me and three others – our leader Stephen Jenkins (LSE), Andrea Brandolini (Bank of Italy) and Brian Nolan (University College Dublin), with contributions from a large number of other persons. The work was part-funded by the Fondazione Rodolfo De Benedetti, Milan. A book reporting our results and the basis for the lecture, *The Great Recession and the Distribution of Household Income*, edited by Jenkins, Brandolini, Micklewright, and Nolan will be published in 2013 by Oxford University Press (<http://ukcatalogue.oup.com/product/9780199671021.do>). See [http://fbe.unimelb.edu.au/alumni/events/public/2012/03/2012\\_downing\\_lecture](http://fbe.unimelb.edu.au/alumni/events/public/2012/03/2012_downing_lecture) for a podcast of the lecture.

## **Introduction**

Richard Downing would surely have approved of the lecture's aim at least. He was from a generation of economists who were not compartmentalised into macro- and micro-economics, and his upbringing during the Great Depression gave him a lasting concern for the implications of major economic events for household welfare. The lecture considers the impact of the Global Financial Crisis – the 'Great Recession' (GR) as it is often called outside Australia – on the *distribution* of household incomes. I and my co-authors are concerned with total and average incomes, income inequality, and income poverty. We consider evidence for 21 OECD countries, albeit in differing degrees of detail.

Our headline findings are that in the short-term – to end-2009 – there was little or only modest change in the distribution of income, including in countries with large changes in aggregate output. But in the medium to longer term, much greater change can be expected due to the fiscal consolidation that is now following governments' efforts to counteract the initial impact of the crisis and the sluggish recoveries or renewed downturns.

### **Key features of the research**

First, we compare the experiences of 21 rich, industrialised OECD countries<sup>2</sup>. Are there general patterns for what happened to the distribution of income? Is the experience of one country, e.g. the US, misleading as a guide to what happened elsewhere? We also study Germany, Ireland, Italy, Sweden, the UK, and the USA in more detail. These six countries include the largest OECD economy and the origin of the crisis – the US – and three of the largest economies in Europe. They differ in degrees of labour market flexibility, welfare state regimes, pre-crisis growth and income inequality. They differ also in the economic shock experienced e.g. housing busts in the US and Ireland, trade shocks in Italy and Sweden. Their subsequent macroeconomic experiences also differed after the onset of the crisis.

Second, we study all sources of household net income – earnings, investment income, and state benefits (and direct taxes). We consider income, not consumption or wealth. While

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<sup>2</sup> Australia, Austria, Belgium, Canada, Denmark, Germany, Greece, Finland, France, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA.

consumption has obvious attractions as a measure of welfare, income measures ‘command over resources’ and has practical advantages in terms of measurement.

Third, we consider all individuals in the population – young, old, employed, unemployed – within their household contexts (aggregating each household’s incomes and adjusting for differences in household size). This contrasts with the narrower approach in some of the literature on the business cycle and inequality which focuses on the earnings of employees. In the UK, for example, such an approach would exclude about 30 per cent of net income and over half of the population. It would also ignore support provided to individuals by their households – the insurance role of the household. The distinction between the elderly and people of working age and the household context in which people live turn out to be important elements in the story of the GR’s impacts.

We start by considering the lessons of the existing literature on the effect of recessions on the distribution of income. We then try to establish what actually happened in the short-term for our 21 countries, drawing particularly on cross-national OECD and EU data. Finally we summarise and consider any lessons for policy. We do not attempt a formal evaluation of the GR’s impact against some counterfactual such as the distribution of income that would have prevailed had neither the bust nor the unsustainable boom that preceded it taken place. This is clearly very difficult to estimate with confidence, so we are left with the less satisfactory – but feasible – alternative of measuring change relative to a baseline of around 2007, but checking that year against trend.

Is this research premature? First, many OECD countries have not yet regained their pre-crisis levels of GDP and some are currently faltering again, e.g. the UK with a new recession in 2012. Second, the consequences of the GR for incomes will last for many years, for example, through the impact of unemployment and future labour market prospects or pension entitlements. These long-term effects are outside our ambit but we do consider in a limited way the medium-term consequences arising from the consolidation of government budgets. Third, we face lags in the availability of household survey data measuring income distribution. These lags can be years. By contrast, the first estimates of GDP may be produced within a few weeks of the end of a calendar quarter. Nevertheless, there is much we can say with available data about the short-term, notably the period to 2009 and, in some cases, 2010.

## **The impact of recessions**

What do we already know about the impact of recessions on the distribution of household income? I'll mention just one of our case studies in this lecture – the US in the 1930s, before the era of regular sample surveys with probability designs. Systematic evidence on changes in the distribution of household incomes across the Great Depression is in fact pretty limited. One exception is Horst Mendershausen's analysis of the incomes of 250,000 households in 33 US cities in 1929 and 1933.<sup>3</sup> This information was collected by recall in 1934, which is far from ideal, but Mendershausen's study is interesting for the attention he paid to different parts of the income distribution. He identified the impact of (i) unemployment – focused on the bottom half of the distribution – in *increasing* inequality and poverty, (ii) a fall in capital income at the top of the distribution, *reducing* inequality, and (iii) the movement apart (as he put it) of the top and bottom of the distribution. The net result was a rise in income inequality as measured by the Gini coefficient, on average across the 33 cities by 5 percent points – a substantial increase.

However, the evidence of other recessions shows no general simple conclusion about their impact on the distribution of income. This depends on (i) the nature of shock, (ii) whom it impacts on most, and (iii) the government response.

## **The Global Financial Crisis and changes in total household incomes**

The crisis began in the second half of 2008 with a number of events, notably the collapse of the US investment bank, Lehman Bros. The burst of housing bubbles in the US and elsewhere exposed the weakness of banks, leading to a broader financial crisis and a collapse in international trade. The result was the first contraction of the world economy since World War 2 and the worst downturn in the OECD since the Great Depression of the 1930s – hence the label 'Great' for this new recession.

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<sup>3</sup> Mendershausen, H. (1946) *Changes in Income Distribution During the Great Depression*. New York: National Bureau of Economic Research.

Overall OECD output fell by 5 per cent. For the GR there were big differences across the countries we consider, ranging from no fall in GDP in Australia to 13 per cent in Ireland. There have also been large differences in the speed of recovery. Figure 1 shows changes in real GDP in index-form for our six case-study countries across 2007-2011, with the values in 2007q1 set to 100. Germany (DE) exhibits a modest fall and a quick recovery. Sweden (SE) has a sharper fall and sharper recovery. The UK and Italy (IT) exhibit faltering or weaker recoveries than in the US. Ireland (IE) saw GDP fall by over 10 per cent, the economy then bumping along at the lower level reached.

< Figure 1 near here >

At this point, one might be tempted to go straight to household survey data to see what these aggregate changes in economic output implied for household incomes. But National Accounts – the source of data on GDP – also show how the household sector fared. Figure 2 plots percent changes between 2007 and 2009 in real GDP on the horizontal axis against percent change in total disposable income of the household sector on the vertical axis. The changes in household income are typically small but positive, i.e. most countries are in the top-left quadrant, including the US where there was a very small rise in total household income. There was no change in disposable household income in Ireland, despite a 10 per cent fall in GDP. The largest fall in disposable income was for Italy, by some 4 per cent (compared to 6 per cent for GDP).

< Figure 2 near here >

We then decomposed the changes in the household sector's disposable income among the different sources of income that households receive. The main explanation – in an accounting sense – for the pattern in the graph is the support given by governments through (i) lower taxes, and (ii), in particular, higher spending on state benefits. Higher state benefits contributed at least 2 percentage points of the change in household income almost everywhere, between 3 and 4 points in the US, Portugal, Belgium and Norway, and over 4 points in Greece, Ireland, Spain and the UK. Without the changes that occurred in state benefits during 2007–2009, these eight countries would typically have been down in the bottom-left quadrant with negative overall change in disposable income. Governments did a lot.

While National Accounts data are revealing, they depict only the total income of the household sector. To consider income inequality or poverty we must go to administrative and survey data on individuals and households. Note that the definitions of income in National Accounts and household survey data differ. For example, the National Accounts include imputed income from rent for owner-occupiers, typically excluded from survey data. So for this and other reasons the changes in aggregate incomes in the two sources may differ somewhat.

### **Changes in employment incomes**

Labour income is the most important source of household income. We need to recognise that most individuals live in households with other people so we look at employment both at the individual and the household level. We then consider what has happened to the distribution of earnings for those in work. Finally, we look at other forms of income – fewer data are available from cross-national sources than for earnings. On this matter I merely make two obvious points: (i) the impact of state benefits will tend to have been concentrated in the bottom half of the distribution (given the incidence of unemployment); (ii) changes in capital income will have impacted most on the top half of the distribution, although widespread falls in interest rates will have affected pensioners on modest incomes with savings.

Changes in total employment over 2007-11 displayed considerable heterogeneity, reflecting in part the variation in size of the fall in output and the nature of shock experienced. Germany saw little change mostly due to ‘short-time’ working. By contrast, the US was one of the few countries where changes in employment were larger than expected from the fall in GDP, given the evidence from past recessions. Ireland and Spain saw very sharp falls in employment. The changes for women were rather different than those for men. In about half our 21 countries, total employment *rose* for women during 2007–2009 while it fell almost everywhere for men. Female employment fell by only 5 per cent in Ireland compared to 20 per cent for men. The explanation for these different gender experiences lies largely in the nature of the economic shocks – they tended to hit male-dominated sectors: construction in Ireland and Spain with housing busts, and manufacturing in Germany and Italy, affected by the sharp fall in international trade. This gender difference was larger than in previous recessions. More familiar from the past was the impact on the young, who were very severely



hit, while there were rises in employment for older workers over 2007-11 in about half our countries.

The key point for an analysis of *household* incomes is that men and women often live together, as do younger and older people. Hence the changes in the percentage of households with no work can be expected to be smaller than the changes in total employment. Data for EU countries show modest changes in this percentage over 2007-2009 in most countries. Spain and Ireland were outliers, with rises of about 5 percentage points: the extent to which co-residence can play an insurance role is limited when employment losses have occurred for women as well as men, old as well as young.

What happened to earnings? Typically average real earnings across 2007-2009 rose for those in work at the same time as employment fell (Australia and the US excepted). This pattern is most likely a selection effect as employment losses were concentrated in the bottom half of the distribution. As for the distribution of (pre-tax) earnings, we traced changes to 2009 only for Anglophone countries. The main period of the GR, 2007-2009, did not see clear changes in trend in earnings inequality when viewed against the changes earlier in the decade.

### **Changes in the distribution of income**

Labour income is the most important element of household income but it is not the only element – we also need to consider people outside the labour market. Moving to the distribution of equivalised total household net income from all sources, and allowing for direct taxes and bringing in all persons into the analysis, our results draw on statistics from harmonised household surveys published by Eurostat, the EU's statistics agency, and on analyses by the US Census Bureau.

The picture for median incomes across 2007–9 is similar to that for total household sector income measured in National Accounts: modest changes, often positive. Figure 3 shows what happened to inequality of household income in our 15 EU countries, as measured by the Gini index, a common measure of income inequality which ranges from 0 to 100 with higher values indicating a more unequal distribution. The countries are divided into four groups: each graph has the same vertical scale for the Gini index, from 20 to 40, and covers the period 2005–9 (2010 in the case of the UK and Ireland). The broad message is one of little

obvious change in income inequality over 2007–2009, viewed against the changes in the immediately preceding years – but with one or two exceptions. US data also show little obvious change in overall income inequality over 2007–10, despite an almost 5 per cent fall in GDP and a big drop in employment.

< Figure 3 near here >

How have different groups within the population fared? The most common pattern in EU countries was for a slight increase over 2007–2009 in median incomes of the elderly relative to other persons, showing that the elderly were relatively well protected during the GR – in the short-term. They were less affected by labour-market changes and the real value of state retirement benefits was often maintained. The elderly also did relatively well in the US: Figure 4 shows changes in poverty rates for different age groups, as measured by incomes below the official US poverty line. Overall poverty rose modestly in 2007–10, by about 3 percentage points. This was driven by rises for those aged under 65 (children and working age) while the rate for those aged 65 and over fell slightly.

The changes in Figures 3 and 4 relate only to the short-term: 2007–2009 or occasionally 2010. What of the medium-term, say 2010–15? The key issues here are the slow and faltering recovery in output in many countries and the fiscal consolidation now underway as OECD governments attempt to reduce the deficits created in the depth of the crisis.

< Figure 4 near here >

Figure 5 shows the general government balance as a percent of GDP in 2007 (grey bars) and 2009 (black bars). Governments had to spend substantially more in 2009 through automatic stabilisers (e.g. unemployment benefits) and stimulus packages to counteract the downturn, but were able to collect less in tax revenue given the reduction in output. The result was a sharp worsening of government balances. For example, Australia moved from a small surplus in 2007 to a deficit of 5 per cent of GDP in 2009. Ireland, balanced in 2007, had a deficit of 14 per cent GDP in 2009 (and an even worse position in 2010 following the bailout of its banks). By 2009, Portugal, the UK, Spain, the USA and Greece also had deficits of 10 per cent of GDP or more. Financing these deficits increased the stock of government debt, often to unsustainable levels.

< Figure 5 near here >

Governments are therefore now trying to reduce their debt – in some cases drastically, e.g. Greece with a partial write-off. But one or two countries have little problem, including one of our case studies, Sweden, atop Figure 5.

How are they doing it and what are the distributional impacts of the choices that are being made? An OECD survey in Autumn 2010 of members' plans for fiscal consolidation showed the four areas most frequently reported were 'welfare' (state benefits), health, pensions, and infrastructure in the case of expenditure, and consumption taxes, tax expenditures, income taxes, and taxes on the financial sector in the case of revenues. Expenditure cuts are more likely to hit the bottom half of the distribution harder. The targeting of health and pensions implies that prospects for the elderly in the medium term may differ from their experience in the short-term. But overall, the distributional impact is unclear, for example, it depends on the incidence of public sector employment and the choice of cutting employment or wages. The impact needs detailed modelling country by country. The impact of the tax increases depends on exactly how increases are implemented, e.g. a change in income tax could be progressive or regressive. Obviously, the potential distributional impact is lower in countries with less need to consolidate their finances.

### **Conclusions, caveats, and lessons**

The short-term impact of the GR on the distribution of household income was typically modest, whether we consider average incomes, inequality of incomes, or income poverty. As far as average incomes are concerned, the elderly generally fared better than other age groups. Many of the medium- and longer- term impacts remain to be measured, and may be significantly larger. They will depend on the pace and pattern of recovery, the extent of fiscal consolidation needed, and the precise measures adopted to consolidate government finances.

Two further caveats. First, any comprehensive measurement of the distributional impact of the GR needs to go beyond a measure of cash incomes, the focus of this lecture. The impact of cuts in government services will not show up in cash incomes (other than through reductions in public sector employment); nor will increases in indirect taxes. Second, our

detailed investigations have not included three countries at the heart of the Eurozone sovereign debt crisis: Spain, Portugal, and Greece. The threats to incomes and other measures of living standards faced by households in Greece are particularly notable.

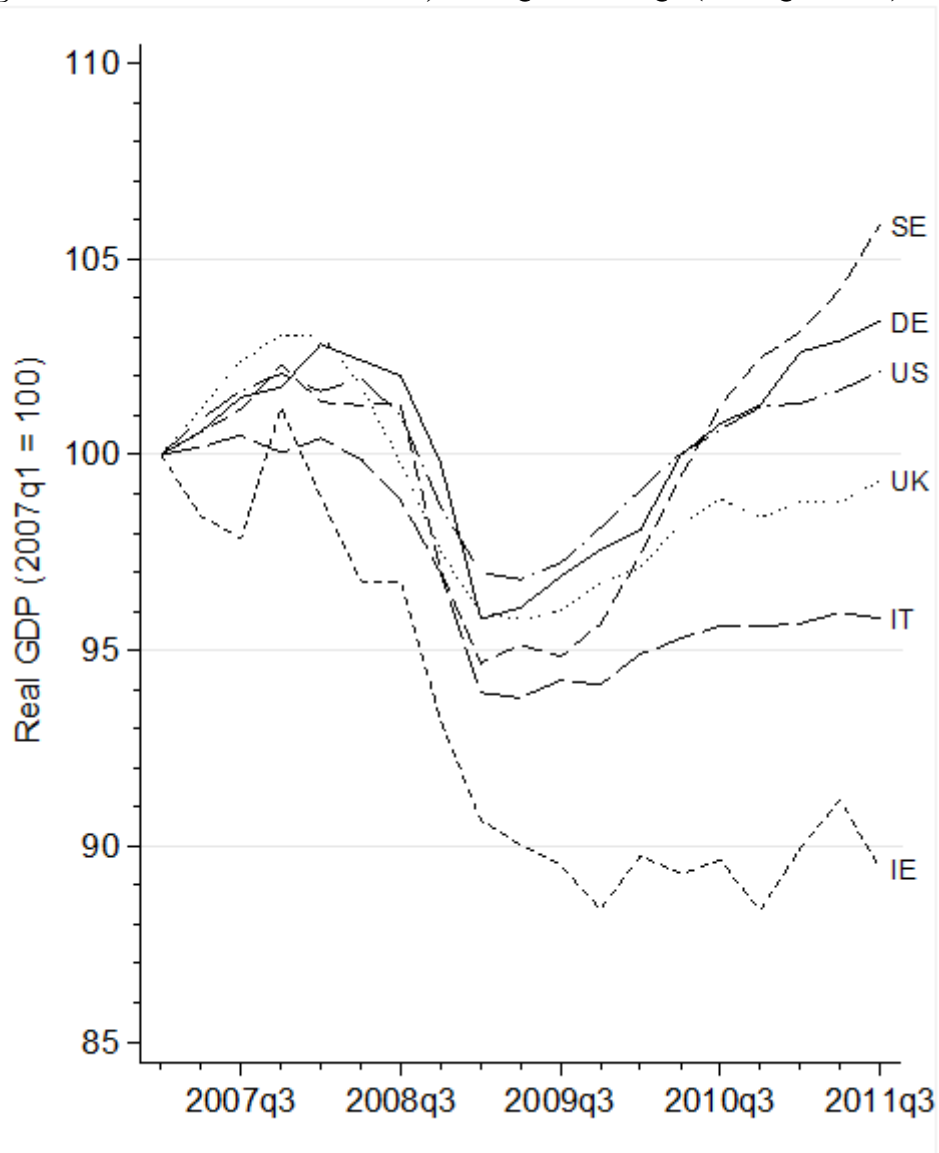
Finally, what broad-brush lessons for policy do we learn from our analysis? First, governments *can* do a lot to stabilise income distributions in the short-term. Where welfare states are stronger, stabilisation will be stronger as automatic stabilisers kick in more quickly. Among our case studies, the softest short-term landings were experienced by the strongest welfare states, notably Sweden. Second, the decisions that governments need to take now will affect distributional outcomes. Those decisions require timely data on household incomes so that current decisions are not taken on the basis of outdated evidence. Our research also underlines the benefits of timely cross-national databases such as those at Eurostat and OECD and of greater use of data on the household sector in National Accounts.

Richard Downing placed much store on measurement, including through National Accounts and the last words in this lecture should go to him. In his *National Income and Social Accounts* he rightly emphasised, ‘The provision of information as a basis for policy to increase the community’s production and employment, to improve the distribution of its income, and to change the allocation of its resources’.<sup>4</sup>

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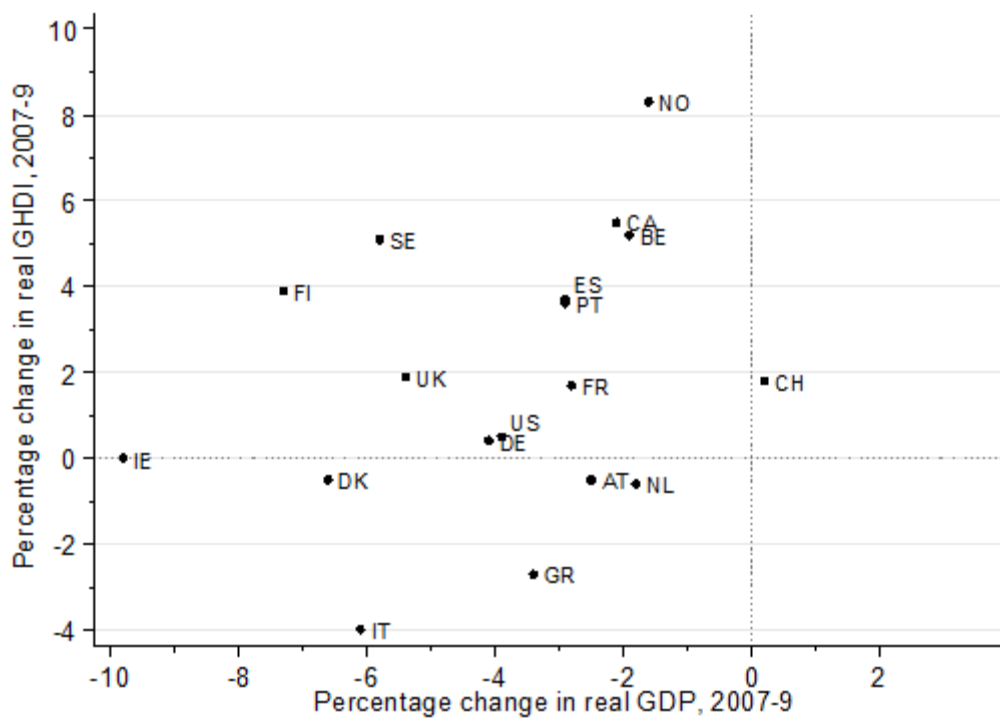
<sup>4</sup> Downing, R. (1965) *National Income and Social Accounts: An Australian Study*, 9<sup>th</sup> ed. London and New York: Melbourne University Press, p.7.

**Figure 1. Real GDP in 6 countries, 2007Q1 – 2011Q3 (2007Q1 = 100)**



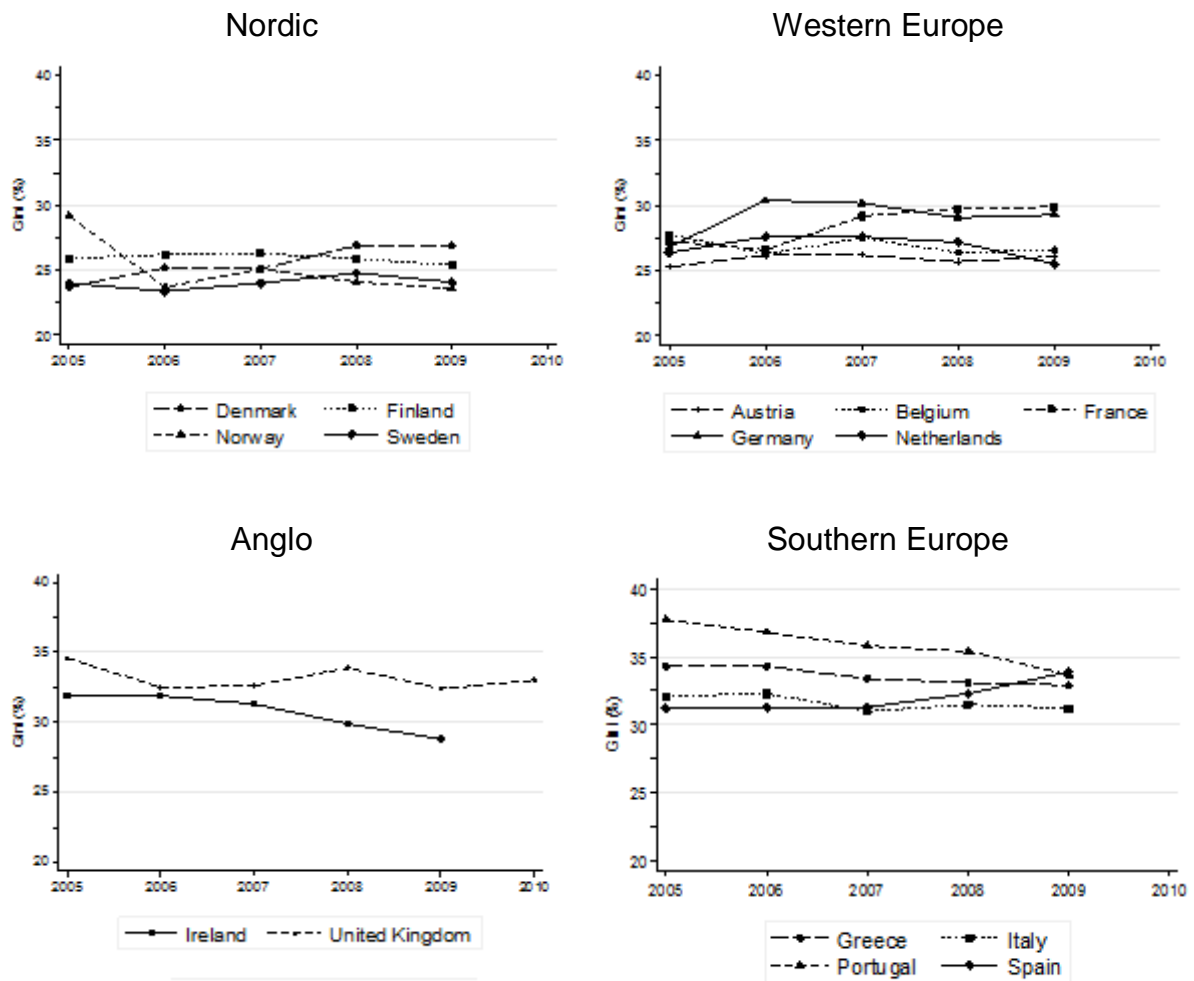
Source: Jenkins, S. P., Brandolini, A., Micklewright, J., and Nolan, B. (eds.) (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press, Figure 2.2.

**Figure 2. Percentage change in real household disposable income (from National Accounts) and in real Gross Domestic Product (GDP), 2007–9**



Source: Jenkins, S. P., Brandolini, A., Micklewright, J., and Nolan, B. (eds.) (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press, Figure 2.4.

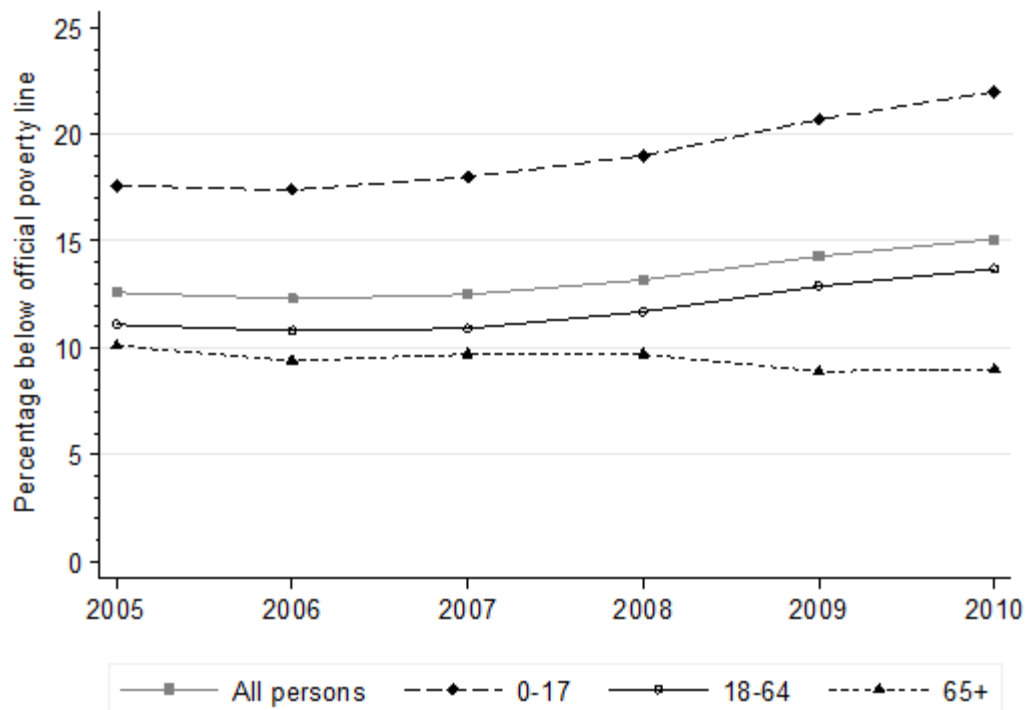
**Figure 3. Inequality of net household income, 15 European countries, 2005–10 (Gini coefficient, %)**



Note: The data refer to distributions of equivalised net household income among individuals (the equivalence scale is the modified-OECD scale).

Source: Jenkins, S. P., Brandolini, A., Micklewright, J., and Nolan, B. (eds.) (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press, Figure 2.19.

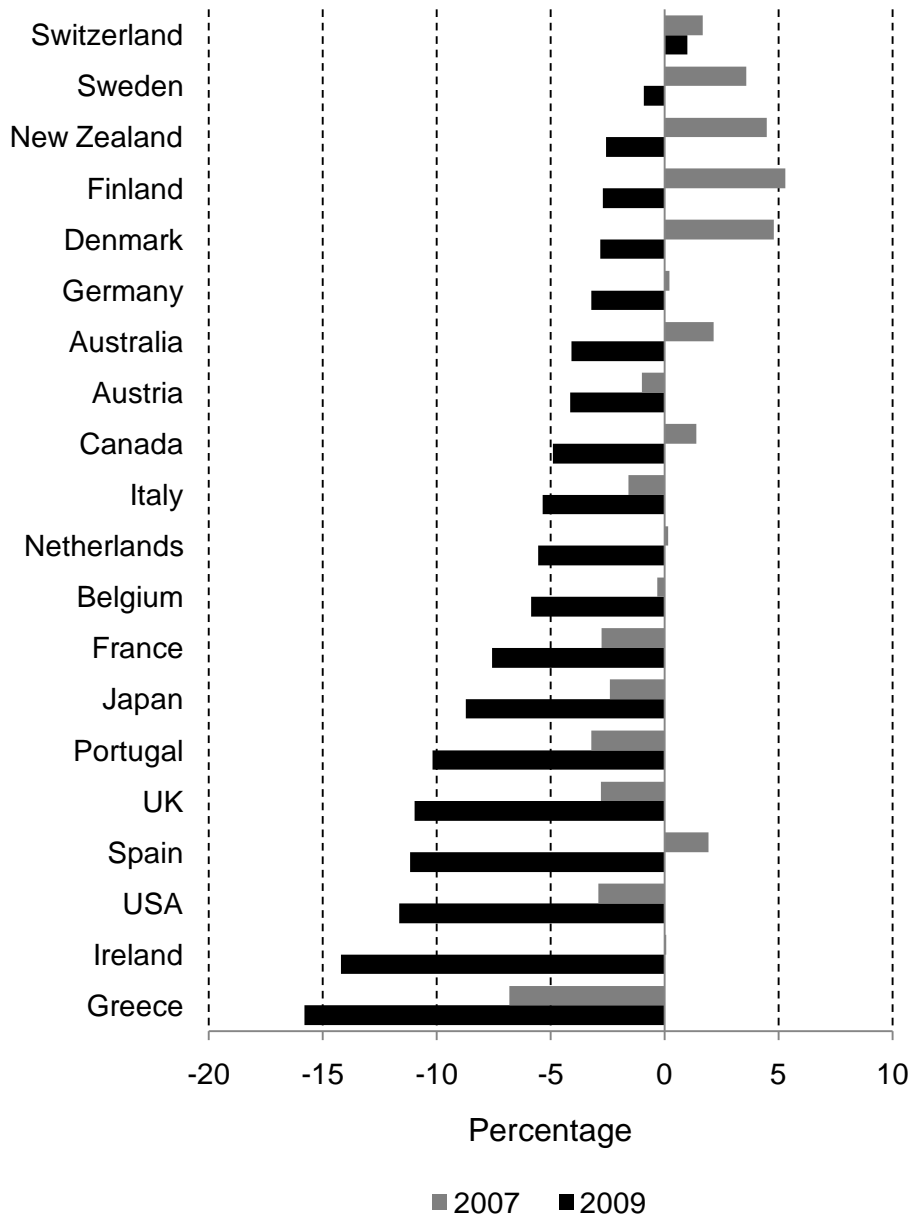
**Figure 4. Absolute poverty rates, USA, 2005–10 (percentage of persons below official poverty line)**



Source: Jenkins, S. P., Brandolini, A., Micklewright, J., and Nolan, B. (eds.) (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press, Figure 2.22.



**Figure 5. General government balance as a percentage of GDP, 2007 and 2009**



Source: Jenkins, S. P., Brandolini, A., Micklewright, J., and Nolan, B. (eds.) (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press, Figure 2.24.