

# ETUI Policy Brief

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### Inequality, poverty and the crisis in Greece

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## Policy implications

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As a result of the austerity and the wider recession, 5% of the Greek population saw their 2010 incomes fall below the 2009 poverty line, swelling the ranks of those who were already – and remained – in poverty (another 20% of population). However, while the crisis has raised the demand for social protection, the supply of social benefits has been reduced rather than increased. To prevent the economic crisis from turning into a social catastrophe, a concerted effort is needed to tighten the social safety net and to shield the weakest groups from its adverse effects.

## Introduction

From the beginning of 2010 Greece has been in the throes of the most severe economic crisis in living memory. After a decade of fast growth, the underlying weakness of the Greek economy was made evident in October 2009, when the incoming socialist government announced that earlier fiscal data had been misreported and radically revised the fiscal deficit and public debt estimates for 2009. Financial markets reacted by raising spreads on Greek bonds and by lowering credit ratings (Featherstone 2011).

In an effort to bring public finances back under control, the government announced a first round of austerity measures in March 2010, followed by tax reform in April 2010. When these failed to placate the markets, a €110 billion bailout package was agreed with the EU, the ECB and the IMF in May 2010. In return, the government introduced a second round of austerity measures and signed up to a controversial Memorandum of Economic and Financial Policies, committing it to a three-year plan of sweeping spending cuts and revenue increases.

Under the terms of the austerity measures, public sector pay and pension benefits were cut. Nominal income reductions were compounded by inflation (4.7% in 2010, from 1.4% in 2009) caused by VAT hikes and a combination of rising oil prices internationally and product market rigidities domestically. With respect to tax reform, the schedule of personal income tax was changed, the top rate raised and a clampdown on tax evasion announced. The austerity measures took place when the Greek

economy was already in recession, and made it deeper still. After negative growth (-2.0%) in 2009, GDP shrank by a further 4.5% in real terms in 2010. As a result, jobs and wages in the private sector also suffered. The estimated average reduction in employee compensation in private firms outside banking in 2010 was 7.3% in real terms, while unemployment climbed to 14.8% in December 2010 (from 10.2% in December 2009). Furthermore, self-employment earnings were also reduced.

The crisis – taken here to signify both the economic recession and the austerity measures, unless otherwise indicated – is widely expected to cause poverty and inequality to rise. However, predicting the distributional effects of the crisis is not as straightforward as it may appear at first sight. Its consequences on the most vulnerable individuals may vary substantially, depending on the interaction between their labour market participation, the income and employment status of other household members, and the capacity of the tax-benefit system to absorb income shocks (Atkinson 2009).

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In this policy brief we provide an early assessment of whether, and to what extent, this is the case using the tax-benefit model EUROMOD. It is based on a research paper (Matsaganis and Leventi 2011) to which the reader is referred for full details of the methods and findings. In Section 2 we briefly discuss our methodology. In Section 3 we present estimates of the distributional effects of the crisis. In Section 4 we reflect on the policy implications of our findings, on the limitations of our approach and on issues for further research.

## Methodology

We focus on changes in the income distribution in 2010, the year of the first austerity measures and the bailout package, relative to 2009, the last year before the onset of the crisis. Obviously, the effects of the crisis were not limited to the year 2010. At the time of writing (September 2011), the economy showed no signs of recovery and in June 2011 a further round of austerity measures was given the green light by Parliament. The impact of more recent developments on the distribution of incomes is the subject of ongoing research, but falls outside the scope of this policy brief.

No information on the distribution of incomes in 2010 in Greece, or anywhere else, is yet available. Due to the complexity of income surveys, including those designed to provide prompt information, results only become available after considerable delay. For instance, the EU-SILC 2011 survey data (reporting on incomes earned in 2010) will not be released before 2013.

Microsimulation fills this gap by providing timely estimates of the impact of the crisis on the income distribution. At the same time, it enables analysts to disentangle the impact of different policy measures, taking into account the interactions of changes in labour income with social benefits and the tax system. Our analysis makes use of EUROMOD, a tax-benefit model estimating the distributional effects of policy changes across EU countries in a comparable way (Sutherland 2007).

In order to enhance the accuracy and credibility of our estimates, we have accounted for the rise in unemployment, addressed tax evasion and benefit non-take-up, and tried to account for VAT changes, at least indirectly. Our research does not address the effect of spending cuts on the quantity and the quality of publicly-funded services, however.

## Results

### Inequality effects

The estimated effect of austerity measures and the recession on income inequality is shown in Table 1. The three indices measure different aspects of inequality and give different results. According to the S80/S20 index – the ratio of the income earned by the top quintile relative to that of the bottom quintile – the distance between rich and poor grew larger following the crisis. According to the coefficient of variation – the ratio of standard deviation to mean incomes – the income distribution in 2010 became less

Table 1: Inequality

	2009	2010	change (%)
Gini coefficient	0.349	0.350	+0.05
Coefficient of variation	0.800	0.786	-1.68
S80/S20 income share ratio	6.109	6.193	+1.39

Source: EUROMOD version F4.0.

dispersed relative to 2009. According to the Gini index, which is more sensitive to changes around the average, inequality has remained roughly the same. On the whole, the results do not seem to support the hypothesis that inequality has risen dramatically as a result of the recession and the austerity.

### Poverty effects

The estimated effect of the crisis on poverty is shown in Table 2.

Using the standard poverty line (at 60% of median income), the overall poverty rate seems to have risen from 20.1% in 2009 to 20.9% in 2010. The experience of specific population sub-groups varied widely: poverty rates were and remained low for families of public or banking sector workers, but were high and increasing for households whose head was a farmer or unemployed. The latter appeared to be worst hit by the crisis: their poverty rate went up from 51.1% to 60.1%. With respect to age, the rise in poverty was more pronounced for persons aged 30-44, the age group worst affected by higher unemployment.

Using a poverty threshold anchored at a fixed moment in time (at 60% of the median of the 2009 distribution, adjusted for inflation), alters the results drastically. Overall poverty rose by more than 5 percentage points. The increase was pronounced for all age groups, and for most occupational categories. Once again, households whose head was unemployed fared worst, experiencing a poverty rate of 63.7% in 2010 – up from 51.1% in 2009).

### Income loss

Figure 1 presents our estimates of the effects of the crisis by income decile, both in absolute terms (in equivalised euros per year, in 2009 prices) and in relative terms (as a proportion of each decile's disposable income in 2009, adjusted for inflation). It focuses on income alone, ignoring the effects of changes in indirect taxation.

In absolute terms, a rather steep gradient can be observed. Households in the top decile appear to have lost €4,344 per year per "equivalent adult" in 2009 prices – i.e. as much as €9,122 per year for a couple with two children. By contrast, those in the poorest decile were left €313 worse off, which represents €657 per year for a family of four.

Table 2: Poverty rates, in %

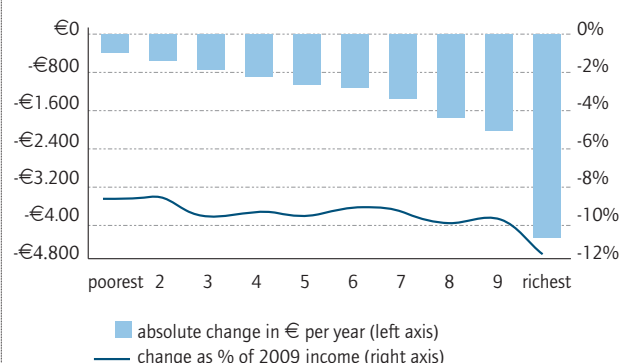
	2009	2010	
		standard	anchored
<b>all</b>	20.06	20.88	25.45
<b>gender</b>			
men	19.04	20.01	24.52
women	21.02	21.70	26.34
<b>age</b>			
0-15	21.41	22.31	27.87
16-29	19.02	20.12	25.27
30-44	16.44	17.93	22.04
45-64	19.02	19.81	23.53
65+	24.61	24.53	29.39
<b>household head is:</b>			
unemployed	51.09	60.14	63.71
employee (public sector or banking)	0.31	0.42	1.40
employee (private sector excl. banking)	12.69	12.31	16.36
liberal profession	3.79	3.72	3.72
own account worker	16.63	17.39	21.32
farmer	46.88	45.56	50.87
pensioner	24.74	24.72	29.06
other	20.65	20.56	28.57

Note: The poverty threshold for a person living alone was €570 per month in 2009. Under the *standard* definition (60% of the median in 2010), the poverty threshold was €543 per month in 2010. The *anchored* poverty threshold (60% of the 2009 median, adjusted for inflation) went up to €597 per month in 2010. Household disposable income is defined as total income, from all sources, of all household members, net of taxes and social insurance contributions, and is equivalised using the "modified OECD" equivalence scale.

Source: EUROMOD version F4.0.

In relative terms the pattern of income loss looks a lot less progressive. Households in the poorest decile lost an estimated 8.7% of their income; those in the next poorest decile 8.6%. Around the middle of the distribution (deciles 3-7), relative income loss fluctuated around 9.5%. Further up, income loss reached 10.1% (decile 8), and peaked at 11.6% for households in the richest decile.

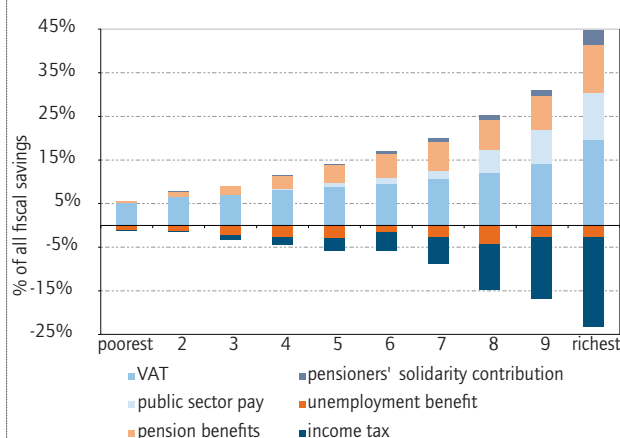
Figure 1: Absolute and relative income loss by decile



Note: Income loss is measured in real terms (i.e. adjusted for inflation), averaged for each decile. Income deciles were constructed according to the "modified OECD" equivalence scale, based on equivalised disposable income in 2009.

Source: EUROMOD version F4.0.

Figure 2: Distribution of fiscal savings by income decile



Note: Income deciles were constructed according to the "modified OECD" equivalence scale, based on equivalised disposable income in 2009.

Source: EUROMOD version F4.0.

## The burden of austerity

We now turn to a crucial, and politically contested, question: how was the burden of austerity shared between income groups? Figure 2 shows the relative contribution of the main austerity measures (including increases in VAT rates) to the government's overall fiscal consolidation effort, separately for each income decile.

An important finding, at first surprising, is that cuts in public sector pay and pension benefits were almost exactly offset by increased spending on unemployment benefits and lower income tax proceeds; this applies more or less across the income

distribution. The most effective – in terms of contribution to fiscal consolidation – of all the austerity measures is the increase in VAT rates.

In distributional terms, a key factor is the design of each measure. For example, pensioners' solidarity contribution was created with the explicit aim of placing a much higher burden on high pension than on low ones. It can be clearly seen that this was achieved, since this measure hardly affected anyone in the bottom half of the income distribution. To a lesser extent, this is also the case with cuts in pensions.

An important factor is that most public sector workers tend to be located towards the top of the income distribution. Further analysis confirms that 74% of civil servants and 65% of public utility workers were located in the top 30% of the income distribution. This reflects higher pay levels but probably – this was not part of the research – also the effect of household cohabitation among public sector workers and between them and professionals. As a result of that, even assuming a proportional reduction in public sector pay, as we do here, the top 30% of the income distribution provided an estimated 84% of the total fiscal savings from cuts in public sector pay.

Paradoxically, in spite of the changes in the structure of personal income tax, three factors combined to make the changes less effective (in terms of tax proceeds) and at the same time less progressive (in terms of distributional effects). The austerity reduces the taxable incomes of public sector workers and pensioners. The recession reduces other taxable incomes, i.e. wages and salaries of private sector employees, and earnings of own account workers and the liberal professions. Tax evasion places a significant share of real incomes from farming and self employment beyond the control of the tax system, distorting the latter's intended distributional effect.

Table 3: Redistributive effect of austerity measures

	values of Gini coefficient		Reynolds-Smolensky index
	actual	counter-factual	
income tax	0.34962	0.35007	+0.00045
pension benefits	0.34962	0.34959	-0.00003
public sector pay	0.34962	0.35250	+0.00288
pensioners' solidarity contribution	0.34962	0.35021	+0.00059

Note: The Reynolds-Smolensky index shows the difference between the actual value of the Gini coefficient in 2010 and its counterfactual value in the absence of the policy changes being assessed, keeping all other effects constant.

Source: EUROMOD version F4.0.

Redistributive effects of each austerity measure can be more formally assessed by calculating the values of an index of residual progression, as proposed by Reynolds and Smolensky (1977). The index shows the difference between the actual value of the Gini coefficient and its counterfactual value in the absence of changes in the policy being assessed, keeping all other effects constant (Duclos and Araar 2006).

The results (shown in Table 3) confirm that the redistributive effect of cuts in public sector pay was considerably progressive. Moreover, changes in personal income tax and the introduction of pensioners' solidarity contribution also seem to have been – mildly – progressive. On the other hand, the redistributive effect of cuts in pension benefits was shown to be weakly regressive.

VAT changes, analysed separately, have been unambiguously regressive. In spite of the fact that different rates may apply to different expenditure items – as is the case with VAT in Greece – the structure of all indirect taxes remains largely proportional. Moreover, as income falls the propensity to consume tends to rise, exceeding 1 at low incomes, where families spend more than they earn, either by borrowing or by drawing on past savings. As a result of both, poor households contribute a significant proportion of the total tax take, and a very high proportion of their own income.

On the whole, the rich appear to have shouldered most of the burden of the fiscal consolidation effort, measured in absolute terms: those in the top decile contributed 21.5% of total savings; those in the next richest decile 14.3%. Nonetheless, the contribution of lower incomes was far from negligible: those in the bottom decile accounted for 4.3% of total savings; those in the next poorest decile for 6.1%. Since the relative income share of the two lowest income deciles was respectively 2.5% and 4.3% – and leaving for a moment aside the objection that our estimate of the impact of VAT changes is imperfect – we can conclude that, in relative terms, the poor contributed a clearly greater proportion of their income than the rich to the government's fiscal consolidation effort.

## Concluding remarks

A certain amount of caution is called for when interpreting our results. The data we had to rely upon were imperfect, our assumptions an inevitable simplification, our account of the effects of the recession incomplete. While these weaknesses affect the accuracy of our results, we think our research offers a good approximation of the distributional effects of austerity measures and the wider recession in Greece. Given the topicality of the questions addressed, and the public interest in the answers, we believe that work based on microsimulation is a good alternative to waiting until future waves of EU-SILC are released. Furthermore, if the research question involves identifying the effect of different factors, distinguishing between progressive and regressive items within the same policy package, as is the case here, there really is no alternative to microsimulation.

Our findings show that, in order to share the burden of austerity more equitably and to minimise losses for lower income groups, policies to reduce Greece's deficit need to be redesigned. In particular, the importance of fighting tax evasion cannot be overstated: it is crucial from a fiscal point of view – improving tax collection would help reduce budget deficits – as well as from a political point of view: restoring distributional justice would go a long way towards making austerity measures more acceptable.

Quite apart from the effects of the austerity, the wider recession has raised the demand for social benefits. The sharp rise in unemployment and the fall in earnings of those who still have a job have resulted in significant income losses. About 5% of the total population saw their 2010 real incomes fall below the 2009 poverty line. These were added to the 20% of population who remained below – now farther below – the poverty line.

So far, the government's response has been inadequate (Matsaganis 2011). Even though the number of unemployed workers rose by 45.1% (December 2010 compared to the same month a year earlier), the number of unemployment benefit recipients over the same period went up by only 9.6%. Rather perversely, housing benefit was suspended in 2010, partly because the crisis slowed the flow of social contributions into the relevant scheme. The frantic search for fiscal savings has not spared social services, some of which – e.g. the successful Home Help programme – suffered significantly. Even though the effect of social services cutbacks is not measured here, this is likely to be regressive.

On the whole, the supply of social benefits seems to have been reduced rather than increased. And yet, to prevent the economic crisis from turning into a social catastrophe, a concerted effort is needed to tighten the social safety net and to shield the weakest groups from its adverse effects.

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