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Incomes and the welfare state in Southern Europe during the crisis

Manos Matsaganis & Andrea Parma (*Politecnico di Milano*)

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Abstract

This paper investigates income mobility in Portugal, Spain, Italy and Greece during the Eurozone crisis. In particular, it focuses on two main themes. On the one hand, the changing distribution of incomes in Southern Europe, including re-ranking, i.e. changes in the composition of the population in various parts of the distribution. On the other hand, loss of income and buffers, i.e. the role of social benefits other than pensions, and labour responses of other household members, in mitigating income loss following an episode of job loss in the household. Exploring the longitudinal panel as well as the cross-sectional dataset of EU-SILC, the paper attempts to shed light on a number of questions: did the rich get richer and the poor poorer? Who were the poor at the depth of the recession, and how did they differ from the population in poverty pre-crisis? Which social groups were worst affected, and which came out relatively more unscathed? What was the role of the welfare state in softening the impact of the crisis on individuals and their families? The paper's findings are often counter-intuitive, and have important implications for the discussion on the recent performance, the transformations, the future, and the continuing relevance of the Southern European model of welfare.

Keywords

Income mobility, Southern Europe, Eurozone crisis, income loss and buffers

The authors

Manos Matsaganis (emmanuel.matsaganis@polimi.it) is Professor of Public Finance at the Department of Architecture and Urban Studies, Polytechnic University of Milan.

Andrea Parma (andrea.parma@polimi.it) is post-doc Research Fellow at the Department of Architecture and Urban Studies, Polytechnic University of Milan.

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This paper aims to investigate changes in the distribution of jobs, earnings, incomes and social benefits in Portugal, Spain, Italy and Greece during the Eurozone crisis of the 2010s. It attempts to shed light on a number of questions: What are the distributional implications of southern Europe's economic decline relative to the rest of the EU? Have poverty and inequality risen in tandem, or have incomes become lower but less unequally distributed? Which social groups were worst affected, and which came out relatively unscathed? What was the role of the welfare state in softening the impact of the crisis on individuals and their families? Have recent policy reforms left the south European model of social protection in disarray? Or have they made it leaner but more effective?

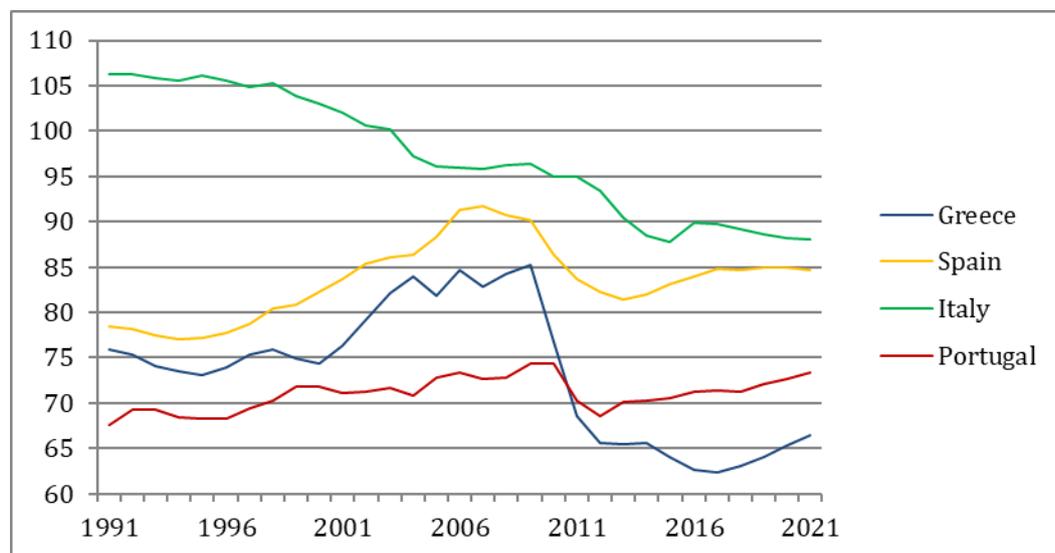
The paper presents the findings of our research on household incomes in southern Europe during the Eurozone crisis. In particular, it focuses on changes in the income distribution in 2009-13), and the extent to which social benefits as automatic stabilizers, and increased earnings by other household members, acted as significant buffers in the event of income drop following job loss. Its structure is as follows. Section 1 sets the scene by presenting the broader picture of economic decline in southern Europe during the crisis. Section 2 analyses changes in the labour market. Section 3 answers the question of how welfare state effort responded to the loss of jobs and incomes because of the recession by tracing developments in social expenditure. Section 4 looks at changes in inequality and poverty. Section 5 surveys the growth (or lack thereof) of family incomes by decile in the four countries, using the cross-sectional microdata of EU-SILC, allowing for the possibility that the relative position of each household in the income scale may have changed over the period. Section 6 in particular focuses on changes in the composition of the low-income population. Section 7 examines income mobility using the longitudinal panel microdata of EU-SILC. Section 8 assesses the role of social benefits and labour earnings of other household members as buffers in mitigating income drop after job loss. Section 9 concludes.

1. Economic change

On the eve of the Eurozone crisis, average living standards in the southern periphery had converged considerably vis-à-vis the rest of Western Europe. In the late 2000s, Spain, Greece and Portugal came closer to the EU15 average than at any time in the previous quarter century, though Italy had peaked earlier (in the early 1990s). In recent years, all four countries lost ground relative to the EU15. Relative living standards fell most dramatically in Greece: to 62% of the EU15 average in 2017 (from 85% in 2009), a level last seen in the early 1960s. More recently, the distance has grown shorter in the case of Portugal and Spain, but not in that of Italy and Greece (Figure 1).

Southern European economies shrank in recent years. Specifically, from peak to trough: Spain by 8.5% (in 2008-13); Italy also by 8.5% (in 2007-13); Portugal by 8.0% (in 2008-13). As for Greece, in 2007-13 gross domestic product (GDP) contracted by 26.5% in real terms. There have been few precedents for such a deep and drawn-out recession in the peacetime history of advanced economies. The US Great Depression was worse (30% drop in GDP in 1929-32), but was shorter too, and was followed by a swift recovery largely engineered by FDR's New Deal. The trajectory of the Greek economy has so far been L-shaped, not U-shaped: real GDP grew by a paltry 3.6% in 2013-18. The recovery has also been anaemic in Italy (4.6%) over the same period. In contrast, the Spanish economy has grown by a cumulative 14.2%, the Portuguese economy by 11.0% (Eurostat data).

Figure 1: *GDP per capita in purchasing power standards relative to the EU15 (1991-2018)*



Note: Gross domestic product at current market prices per head of population in purchasing power standards (PPS: EU15 = 100).

Source: AMECO Eurostat [HVGDP] (extracted on 30 November 2019).

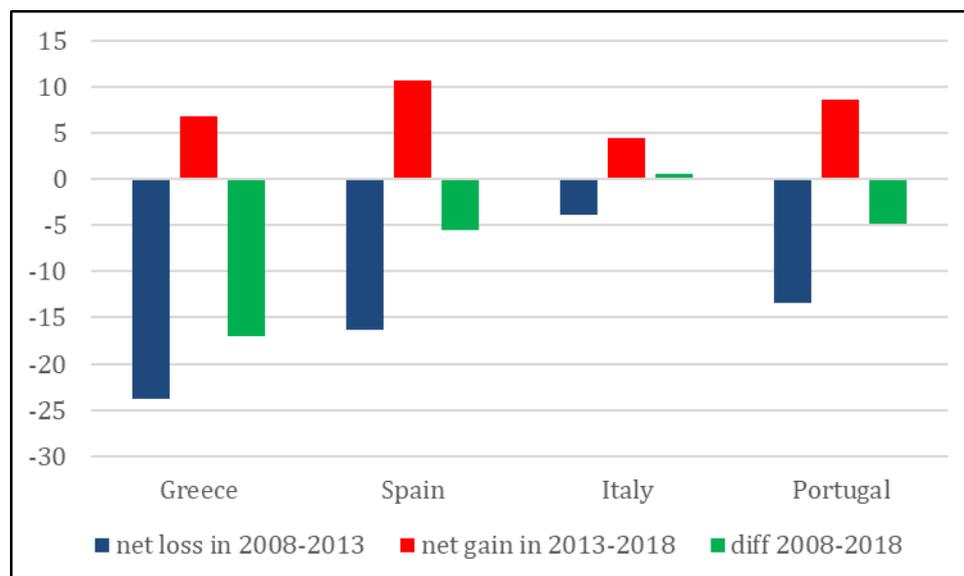
2. Changes in the labour market

In 2007, the unemployment rate in Southern Europe was not far from the average for the EU as a whole (7.3%), ranging from 6.2% in Italy to 8.5% in Portugal and Greece, with Spain at 8.3%. Thereafter, joblessness rose throughout Europe, but nowhere as much as in Spain and Greece, where it peaked at a massive 26.2% and 27.7% of the workforce in 2013 respectively. In 2018, against a EU28 average of 7.0% (7.6% in the EU15), unemployment stood at 19.5% in Greece, 15.4% in Spain, and 10.8% in Italy. Only in Portugal (7.3%) was the unemployment rate in line with the EU average (Eurostat data).

The adverse employment situation in Southern Europe goes well beyond high unemployment. Emigration from all four countries (especially from Greece and Spain) has artificially kept down the unemployment figures. So has the share of discouraged workers (available for but not actively seeking work), which is much higher in Italy than elsewhere in Europe. For all these reasons, it makes more sense to look at the number of workers in employment. Between the pre-crisis peak (conventionally: 2008) and the trough of the Great Recession (2013), the total number of workers in jobs decreased significantly throughout Southern Europe: by 23.8% in Greece, 16.3% in Spain, 13.4% in Portugal, and by 3.9% in Italy (Figure 2). Except in Italy, the loss in jobs had not been fully made up by 2018. In Portugal, for each 100 jobs lost in 2008-13 only 64 were created in 2013-18. In Spain, that ratio was 66%. In Greece, it was a mere 29%.

Employment rates (even though also affected by the complex interplay of demographic changes, including population ageing, fertility, immigration and emigration) fell precipitously in 2008-13: in Greece by 12.6 percentage points (pp.), in Spain by 9.7 pp., in Portugal by 7.4 pp., in Italy by 3.1 pp. (workers aged 15-64). Note that pre-crisis employment rates in southern Europe (except Portugal) had been below the EU average. In Greece, the decrease undid the progress of the previous quarter of a century: at 53.5%, the employment rate in 2017 was exactly that in 1993.

Figure 2: *Change in the number of workers in employment (2008-18)*



Note: Change in the number of workers aged 15 and over in employment (2008 = 100).

Source: Eurostat [lfsq_egan] (last update: 23 May 2019; extracted on 20 June 2019).

Taking into account changes in the prevalence of part-time work, Myant et al. (2016) have estimated that between 2007 and 2014 total hours worked by employees aged 15-64 fell by 7.5% in Italy, 9.8% in Portugal, 18.6% in Spain and 23.4% in Greece.

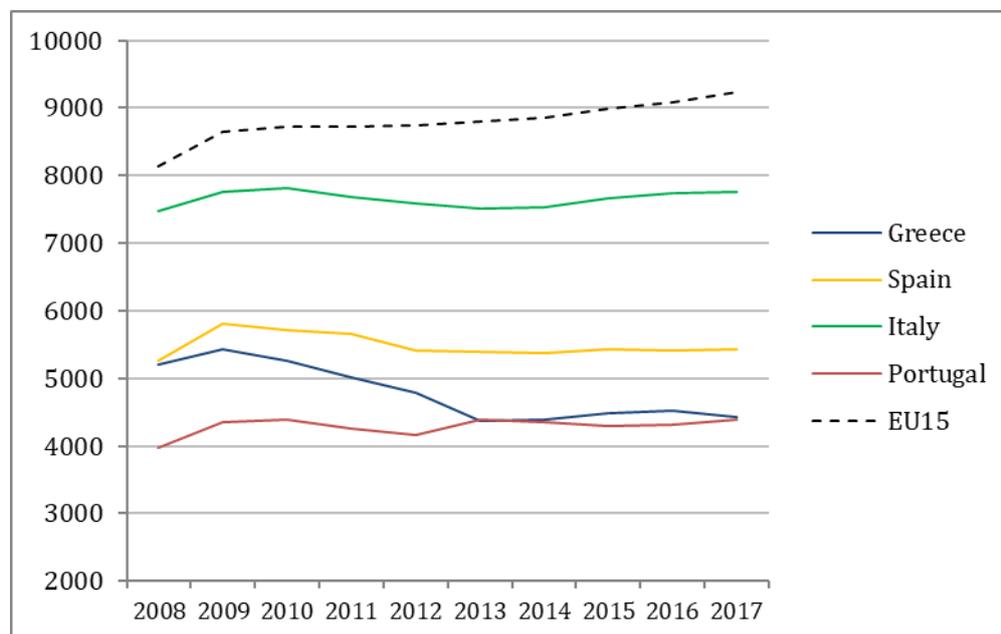
Real wages also declined (especially in Greece), or at best stagnated (as in Spain). That was both a result of the recession (i.e. reduced demand for labour) and of ‘internal devaluation’ (i.e. policy-driven compression of wages via labour market deregulation). A recent ETUI study (2017), based on AMECO data, has estimated that real wages declined in 2009-16 in Greece (by 3.12% per year on average), in Portugal (by 0.74% per year), and also in Italy (-0.28%), while they virtually stagnated in Spain (+0.13%). (See also European Commission 2016).

3. Changes in social expenditure

In relative terms, as a share of GDP, expenditure on social protection continued to grow during the crisis in Southern Europe, and by more than in the EU as a whole (+3.1 percentage points in Italy, +3.6 in Greece, +4.2 in Portugal, and +4.4 Spain, vs. +2.9 percentage points in the EU28 (in 2008-13)).

Nevertheless, in absolute terms (per inhabitant, at constant prices), expenditure on social benefits peaked in 2009 (Greece, Spain) or 2010 (Italy, Portugal). Thereafter, as the recession deepened, social protection retreated. By 2013, the size of the Greek welfare state (in terms of social spending per capita in real terms) had shrunk by 19.3% relative to what it had been in 2009. The corresponding decline was -7.2% in Spain and -3.3% in Italy. Only in Portugal did social protection expenditure increase in absolute terms (+1.0%). In recent years, social expenditure seems to have picked up somewhat in all four countries (Figure 3).

Figure 3: *Social spending per inhabitant (2008-17)*



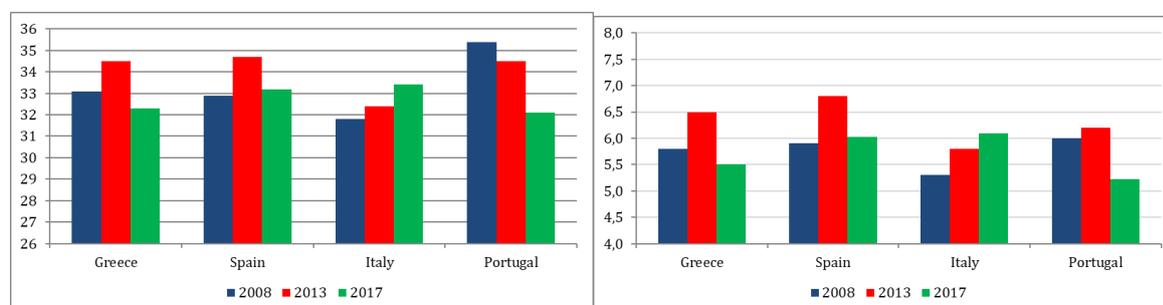
Note: Social expenditure per inhabitant (at constant 2010 prices).

Source: Eurostat [spr_exp_sum] (last update: 18 November 2019; extracted on 30 November 2019).

4. Changes in inequality and poverty

Eurostat figures indicate that in most cases income inequality increased in 2008-13, and decreased in 2013-17. Italy is an exception, in that inequality has been increasing steadily since 2008. Also, in Portugal changes in inequality in 2008-13 depend on the indicator used. (Note that the Gini coefficient is more sensitive to changes in the middle of the distribution, while the income quintile share ratio S80/S20 measures the income share of the richest 20% relative to that of the poorest 20% and is hence more sensitive to changes at the two ends of the distribution.) On the whole, income inequality was clearly lower in 2017 than it had been in 2008 in Greece and in Portugal, slightly higher in Spain, and significantly higher in Italy (Figure 4).

Figure 4: *Inequality (2008-17)*

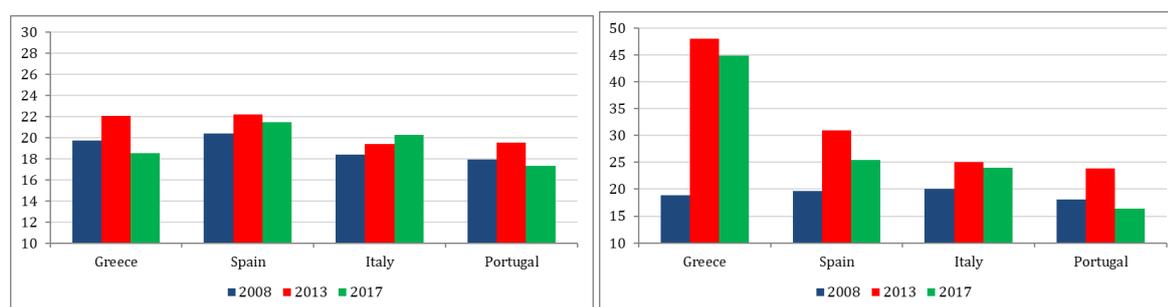


Note: Left-hand panel: Gini coefficient (scale from 0 to 100) of equivalised disposable income [ilc_di12]. Right-hand panel: S80/S20 income quintile share ratio [ilc_di11]. EU-SILC survey data. Income reference years.

Source: Eurostat (last update: 29 November 2019; extracted on 30 November 2019).

Relative poverty exhibits a similar pattern: it rose in all four countries in 2008-13, then fell (except in Italy) in 2013-17, and was lower in 2017 than it had been in 2009 in Greece and in Portugal. Note that changes in relative poverty rates are confounded by changes in median incomes and hence in the poverty thresholds. ‘Anchoring’ the poverty threshold to an earlier year is one way of dealing with the confounding role of changes in median incomes and poverty thresholds. By this definition, poverty rose significantly in 2009-2013 in all countries (in Greece: from 18.0% to as much as 48.0% of the 2007 median, adjusted for inflation), and then fell again in 2013-17, though not enough to compensate for the earlier increase (except for Portugal) (Figure 5).

Figure 5: *Poverty (2008-17)*



Note: At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers). Left-hand panel: moving poverty threshold [ilc_li02]. Right-hand panel: poverty threshold anchored in 2007, adjusted for inflation [ilc_li22b]. EU-SILC survey data. Income reference years.

Source: Eurostat (last update: 29 November 2019; extracted on 30 November 2019).

5. Income change by decile

As the preceding sections show, in the 2010s Southern European countries (especially Greece) lost ground relative to the rest of Western Europe in terms of living standards; more jobs were lost in the recession than were created in the recovery (except in Italy); social expenditure failed to act as an automatic stabilizer (except to some extent in Portugal); while (relative) poverty and inequality increased less than might have been expected, and in Greece and Portugal now stand below pre-crisis levels. The remaining sections attempt to probe more deeply into recent changes in the distribution of incomes in Southern Europe, including changes in the composition of the population in poverty, income mobility, and income buffers following job loss. We start by tracing income growth (or lack thereof) by income decile during the crisis using the cross-sectional microdata of EU-SILC (Statistics on Income and Living Conditions).

The first thing to note is that the Great Recession as experienced by individuals and families was even more painful than headline figures suggest, however bleak the latter might have been. For instance, we estimate that household incomes (net of taxes and benefits) declined more than GDP: by an average of 41.3% in Greece, 16.8% in Spain, 13.7% in Portugal, 9.8% in Italy in 2009-13 (in real terms).

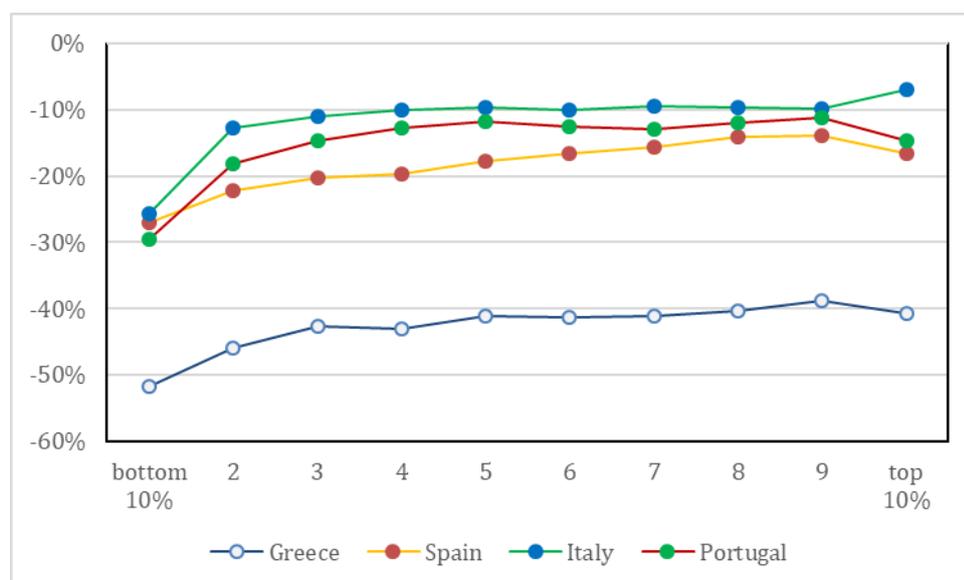
How did income change vary by decile? Allowing the composition of deciles to vary in time, as is common practice, we find that the poorest 10% of the population of all four Southern European countries was much poorer in 2013 than it was in 2009. Furthermore, it was significantly poorer than the population as a whole. Income loss at the bottom decile was a massive 51.7% in Greece, but was also enormous in Portugal (29.5%), Spain (27.1%) and Italy (25.7%). Having set negative

incomes to zero, our finding may even *understate* the true size of negative income change at the poorest 10% of the population.

If the data suggest that the poor became poorer (or, more precisely, that those in the bottom decile in 2013 were poorer than those who occupied the same decile back in 2009), they do not quite support the notion that the rich became richer. At any rate, real incomes at the top decile (i.e. the richest 10% of the population) also declined: by almost as much as average incomes in Greece (40.6%) and Spain (16.6%), by more than average incomes in Portugal (14.7%), and by less than average incomes in Italy (7.0%) (Figure 6).

On the whole, income losses ranged from considerable to huge throughout the distribution, at all income deciles, in all four countries. However, the overall pattern of income change in Southern Europe in 2009-13 (i.e. during the darkest years of the Eurozone crisis) was clearly regressive. While the rich did not get richer, the income losses they suffered were lower than average (in relative terms). The rise in inequality was the inevitable result of that.

Figure 6: *Income growth by decile (2009-13)*



Note: Change in equivalised net disposable household income between 2009 and 2013 in constant prices by decile (1: poorest; 10: richest). Income reference years. Negative incomes set to zero.

Source: Own elaboration of EU-SILC cross-sectional dataset.

Comparing 2009-13 (the depth of the recession) to 2003-07 (the high-growth years following the introduction of the common currency) is instructive. Real income growth then had been positive to start with: +10.1% in Greece, +7.3% in Spain, +5.2% in Portugal, +3.0% in Italy. Moreover, income gains were greater at the bottom, and in the case of Portugal (23.8%) and Italy (15.6%) spectacularly so. Only Spain bucked the trend, with the rate of real income growth in 2003-07 being negative for the poorest decile, and rising with income higher up the distribution.

6. Changes in the composition of the low-income population

Comparing the average income of a given quantile (e.g. the poorest 10%) at two points in time (e.g. in 2009 and in 2013) using cross-sectional data can be informative. Nonetheless, it can also

be misleading: the population of each decile is not identical across time. Changes in the composition of various quantiles caused by re-ranking is an important part of the story of the changing distribution of incomes.

Let us focus on the low end of the income scale. What are the main changes in recent years?

One striking fact is that pensioners have increasingly been *under*-represented among the low-income population in Southern Europe. If we define that population as individuals aged 16+ in income quintile 1 (i.e. the poorest 20% of the population), we find that the proportion of pensioners among the poor has been falling over a long period in all four countries.

For instance, in Spain, where in 2004 pensioners made up 20.3% of the low-income population (aged 16+), their share had fallen to 11.4% in 2009, while by 2013 only 5.0% of that population were pensioners. In 2009-2013, the share of pensioners in income quintile 1 declined from 19.5% to 12.2% in Greece, from 25.9% to 17.4% in Portugal, and from 16.3% to 12.1% in Italy.

The relative decline in the share of pensioners in the low-income population in Southern Europe becomes even more remarkable if we bear in mind that their share in the general population has actually increased over the period (except in Italy).

Given that changes in the composition of a certain quantile are typically associated with changes in the composition of the entire population, one way of summarizing the former taking into account the latter is by calculating ‘relative risks’ (i.e. the ratio of a certain group’s share in the lowest income quintile to its share in the general population).

Table 1: *Pensioners in the low-income population*

	share in population		share in bottom 20%		relative risk	
	2009	2013	2009	2013	2009	2013
Greece	20.7%	24.8%	19.5%	12.2%	0.94	0.49
Italy	21.9%	21.3%	16.3%	12.1%	0.74	0.57
Spain	13.8%	14.9%	11.4%	5.0%	0.83	0.34
Portugal	23.0%	24.9%	25.9%	17.4%	1.12	0.70

Note: Share in population: proportion of total population aged 16+ who are pensioners (A). Share in bottom quintile: proportion of population aged 16+ in income quintile 1 (poorest 20%) who are pensioners (B). Relative risk (C) equals (B) divided by (A). Income reference years.

Source: Own elaboration of EU-SILC cross-sectional dataset.

Take the example of pensioners. In Greece, between 2009 and 2013, i.e. during the worst of the Eurozone crisis, their share in the bottom quintile (poorest 20%) fell just as their overall population share increased (from 20.7% to 24.8%). In this context, the relative risk that pensioners might find themselves in quintile 1 decreased from 0.94 (i.e. 6% less than a random chance) to 0.49 (i.e. 51% less than a random chance). In Spain, that relative risk fell even more spectacularly, from 0.83 in 2009 to 0.34 in 2013. In all four countries, pensioners became more *under*-represented among the poor as the crisis deepened (Table 1). Gender differences were not significant.

While the relative weight of pensioners in the low-income population has been falling steadily, that of unemployed workers has been rising. In 2009-13, the share of unemployed workers in income quintile 1 (aged 16+) increased from 11% to 35% in Greece, from 15% to 25% in Italy, from 27% to 41% in Spain, and from 16% to 27% in Portugal. This is important, and has clear policy implications, but is perhaps unsurprising given the overall rise in joblessness. In fact, the

unemployed were more than twice as likely to be in the lowest quintile, than their population share alone might have suggested. In Greece and in Italy this trend was more pronounced among men, while in Spain and in Portugal it was more uniform by gender.

The relative risk of employees being in the bottom quintile (i.e. their share in the lowest income quintile divided by their share in the general population) was between 0.40 and 0.50 in the four countries. That of the self-employed fluctuated between 1.60 and 1.85 in Portugal, the corresponding range being 1.00 to 1.30 in Greece, 1.10 to 1.30 in Spain, and 0.85 to 1.00 in Italy.

Children were *over*-represented among the poor throughout Southern Europe. In Greece, in 2004, a child had an even chance (exactly 1.00) of being in quintile 1 (poorest 20%). In 2009, the relative risk was 1.14 (i.e. 14% more than a random chance). By 2014, that risk had risen to 1.40. In contrast, the presence of children in the low-income population seemed to stabilize – or even decrease – in Spain, Portugal and Italy.

In other respects, recent changes in the composition of the low-income population were less dramatic. Individuals with tertiary education faced a relative risk of being in the lowest quintile of 0.27 in Portugal, and between 0.40 and 0.50 in the other three countries. Non-nationals were significantly more likely to be in the poorest 20% of population, especially in Spain (over three times as likely). Households holding a mortgage accounted for around 20% of the low-income population in Spain and Portugal, and around 10% in Italy and Greece. The share of families in rented accommodation who were in the bottom income quintile ranged from 18% in Portugal to 26% in Greece. City dwellers faced a slightly higher-than-even chance of being in the poorest 20% in Italy and Portugal, and a lower-than-even chance in Greece and Spain.

7. Income mobility

As discussed earlier, analysing cross-sectional data faces the drawback that the populations under comparison change over time. For this reason, the analysis of longitudinal data may often afford richer insights. Of course, panel data suffer from attrition. That was the fate of the European Community Household Panel (ECHP), run by Eurostat from 1994 to 2001. In the light of that experience, its successor the European Union Statistics on Income and Living Conditions (EU-SILC) was launched in 2003-04 as a rotating panel, where each household remains in the sample for at most four years, and one quarter of the sample changes every year. In this part of our research, we present preliminary results from our analysis of the EU-SILC longitudinal panels.

We focus on individuals living in households with the same composition over the 2010-13 rotation (incomes earned in 2009-12). While clearly our sub-sample may be less representative of the population as a whole, in terms of average and median incomes differences are small (between -3% and +6% relative to the cross-sectional dataset in 2012). Still, average income losses in 2009-12 were significantly lower among households with unchanged composition over the rotation than among all households in the cross-sectional dataset: 29% vs. 39% in Greece, 6% vs. 14% in Spain, 6% vs. 8% in Italy, 9% vs. 13% in Portugal.

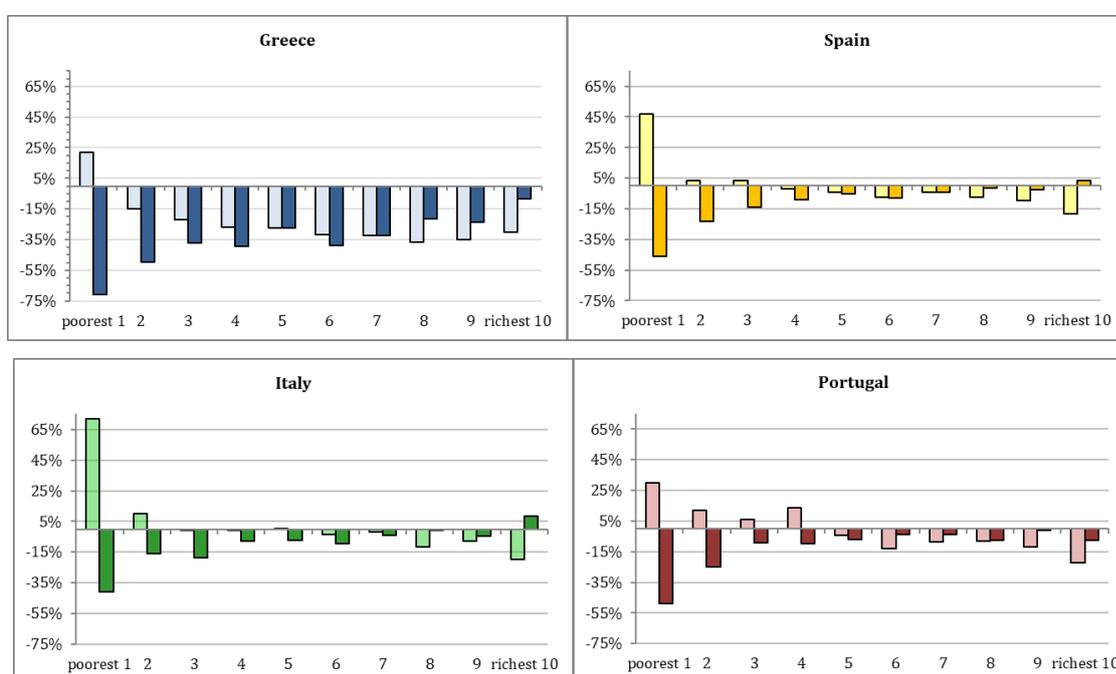
Even when *average* incomes are quite stable (which they were not during the period of interest), *individual* incomes will fluctuate over time. Some part of the total variation may be systematic (e.g. incomes generally rise with experience and skills acquired), some other part may be random (e.g. associated with job loss due to business closure). Because of the tendency of extreme values to converge (known as ‘regression towards the mean’), changes in the income distribution over a certain period will seem to suggest falling inequality when seen from the perspective of the start year, and conversely rising inequality when seen from the perspective of the end year.

Take the case of Greece, where income losses were massive (-29% on average in the sub-sample in 2009-12 in real terms). Individuals in the bottom decile in 2009 saw their incomes *increase* by

2012 (+22% on average). In contrast, those in the bottom decile in 2012 had seen their incomes *decrease* dramatically relative to 2009 (-71% on average) (Figure 7).

This finding may seem surprising, but is merely a reminder that average trends typically conceal considerable variation, as economic life tends to be quite complex. Going back to the case of Greece in 2009-12, when the economy collapsed and joblessness rose steeply, as many as 17% of our sub-sample experienced positive real income growth, defined as change greater than +1%. (The proportion of those with higher real incomes in 2012 relative to 2009 was greater in the other three countries: 33% in Spain, 34% in Portugal and 37% in Italy.) The individuals enjoying rising incomes in Greece included a full 56% of those in the bottom decile in 2009, and even 7% of those who were in that decile in 2012.

Figure 7: *Income growth by decile (2009-12)*



Note: Change in equivalised net disposable household income, in 2012 relative to 2009, in constant prices, by decile. Households ranked as in 2009 (light bars) and as in 2012 (right bars) respectively. Income reference years. Negative incomes set to zero.

Source: Own elaboration of EU-SILC longitudinal panel.

Downward income mobility is usually experienced traumatically by the individuals and families concerned. At times of economic decline, downward mobility involves a deterioration of relative position, i.e. greater-than-average income losses. Downward positional mobility (Jäntti & Jenkins 2015) can be measured by the fraction of individuals moving to a lower decile group. In 2009-12, that fraction was approximately equal to one-third of the population of interest (i.e. households whose composition remained unchanged over the period). In 2004-07, that fraction had been somewhat higher.

Other indicators, such as one minus Spearman's rank correlation and 'corner probabilities' from the transition matrix (measuring the fraction of individuals in quantile 1 in 2009 who were higher up the income scale in 2012, or the fraction of individuals in quantile 5 in 2009 who were lower

down the income scale in 2012), also suggest that income mobility was actually lower in 2009-12 than it had been in 2004-07.

8. Income buffers following job loss

The next question addressed in this paper is the extent to which negative changes in individual earnings (in this case, after job loss) translated into household income loss during the crisis. At a general level, the answer depends on a variety of factors: changes in labour earnings of household members other than the person losing his or her job, changes in other market incomes (e.g. rent), changes in non-market incomes (e.g. private transfers from other households), and changes in receipt of social benefits. We call these factors ‘buffers’, in the sense that they mitigate earnings loss, i.e. make a positive contribution to household income in the event of job loss affecting one of its members.

We explore the role of two buffers in particular: social benefits other than pensions (Y_b), and labour earnings of other household members (Y_l). We look at the extent to which income loss, in this case earnings losses following job loss (dW), are actually compensated by increased receipt of social benefits other than pensions (dY_b) and/or increased labour earnings by other household members (dY_l).

The coverage and adequacy of those buffers in mitigating income loss can be potentially measured in several ways. In this paper, we measure:

- * coverage by the *share of observations located in the upper left (or north-western, NW) quadrant*, defined as the proportion of households with a negative change in individual earnings of unemployed workers coinciding with a positive change in household income due to higher social benefits or higher labour earnings of other household members in any two years, and
- * adequacy by the *replacement rate*, defined as the positive change in household income due to higher social benefits or higher labour earnings of other household members as a proportion of the negative change in individual earnings of unemployed workers in any two years over the period of interest.

We restrict our analysis to individuals who had labour earnings (employees or self-employed) in any year in 2009-13 (t_1) and were unemployed in the following year (t_2) in the longitudinal panel of EU-SILC. We compare the performance of our buffers during the crisis with that over a previous period (2004-08). To eliminate the influence of changes in household formation, we limit our sample to persons aged 16-65 in households whose composition remained the same in all two-year periods in 2004-13. The resulting number of individuals was 870 in Greece, 1834 in Italy, 2842 in Spain, and 1077 in Portugal.

In terms of coverage (proportion of observations falling in the NW quadrant), we find that the performance of social stabilizers did not improve during the crisis relative to an earlier period, except in Portugal. In Italy, where that performance was lower than elsewhere in both periods, the proportion of households experiencing an increase in the receipt of social benefits other than pensions, at the same time as a decrease in the earnings of one of their members due to job loss, fell from 18% in 2004-08 to 15% in 2009-13. In Greece, the corresponding proportion was 49% and 38% respectively. In Spain, the response of social benefits other than pensions marginally improved, from 63% in 2004-08 to 64% in 2009-13. Only in Portugal did social benefits cover a significantly higher proportion of households with workers who lost their job: 68% in 2009-13, up from 58% in 2004-08 (Table 2).

Table 2: *Coverage of social benefits other than pensions (2004-08 vs. 2009-13)*

	Proportion of observations in NW quadrant	
	2004-08	2009-13
Greece	49%	38%
Italy	18%	15%
Spain	63%	64%
Portugal	58%	68%

Note: Households of unemployed workers (at t_2) whose income from social benefits other than pensions was greater in t_2 relative to t_1 (i.e. $dY_b > 0$) while income from labour earnings of the unemployed workers themselves was lower in t_2 than it had been in t_1 (i.e. $dW < 0$).

Source: Own elaboration of EU-SILC longitudinal panel.

In terms of adequacy (replacement rate), focusing on households in the NW quadrant alone, we find that in Spain, Portugal and Italy the share of the income drop due to earnings loss of household members who lost their job that was made up by social benefits other than pensions was higher in 2009-13 than in 2004-08. Specifically, the average replacement rate in 2009-13 reached 18% in Spain and 17% in Portugal (from 12% and 15% respectively in 2004-08), while in Italy it went up from 9% to 12%. In contrast, in Greece the replacement rate of social benefits other than pensions went down to 6% in 2009-13 (from 11% in 2004-08).

Table 3: *Adequacy of social benefits other than pensions (2004-08 vs. 2009-13)*

	Average replacement rate	
	2004-08	2009-13
Greece	11%	6%
Italy	9%	12%
Spain	12%	18%
Portugal	15%	17%

Note: Average increase in income from social benefits other than pensions in t_2 relative to t_1 ($dY_b > 0$) as a proportion of the reduction in labour earnings of the unemployed workers themselves in t_2 relative to t_1 ($dW < 0$). The average is calculated as $(\Sigma Y_{bt_2} - \Sigma Y_{bt_1} / \Sigma W_{t_2} - \Sigma W_{t_1})$.

Source: Own elaboration of EU-SILC longitudinal panel.

Turning to labour earnings of other household members, and their role as buffers in mitigating income loss in the event of job loss of one of their members, we find that the share of observations falling in the NW quadrant (which we now simply call ‘frequency’ rather than ‘coverage’) fell in all four countries. Specifically, it ranged from 25% to 28% in 2009-13, down from 32% to 37% in 2004-08, reflecting worsening labour market conditions over the crisis (Table 4).

Table 4: *Frequency of increased labour earnings of other household members (2004-08 vs. 2009-13)*

	Proportion of observations in NW quadrant	
	2004-08	2009-13
Greece	37%	25%
Italy	32%	26%
Spain	34%	28%
Portugal	32%	26%

Note: Households of unemployed workers (at t_2) whose income from labour earnings of other household members was greater in t_2 relative to t_1 ($dY_1 > 0$) while income from labour earnings of the unemployed workers themselves was lower in t_2 than it had been in t_1 ($dW < 0$).

Source: Own elaboration of EU-SILC longitudinal panel.

In terms of replacement rates, showing the degree to which increased labour earnings by other household members compensated for the earnings loss of workers who recently lost their job (which we now term ‘size’ rather than ‘adequacy’), our findings suggest that this buffer lost ground during the crisis in Southern Europe (Table 5). Focusing on households in the NW quadrant alone, whose share (as seen in Table 4) was lower in 2009-13 than in 2004-08, we find that average replacement rates fell between the two periods in all four countries. The fall was greatest in Greece: from 130% in 2004-08 to 74% 2009-13.

Table 5: *Size of increased labour earnings of other household members (2004-08 vs. 2009-13)*

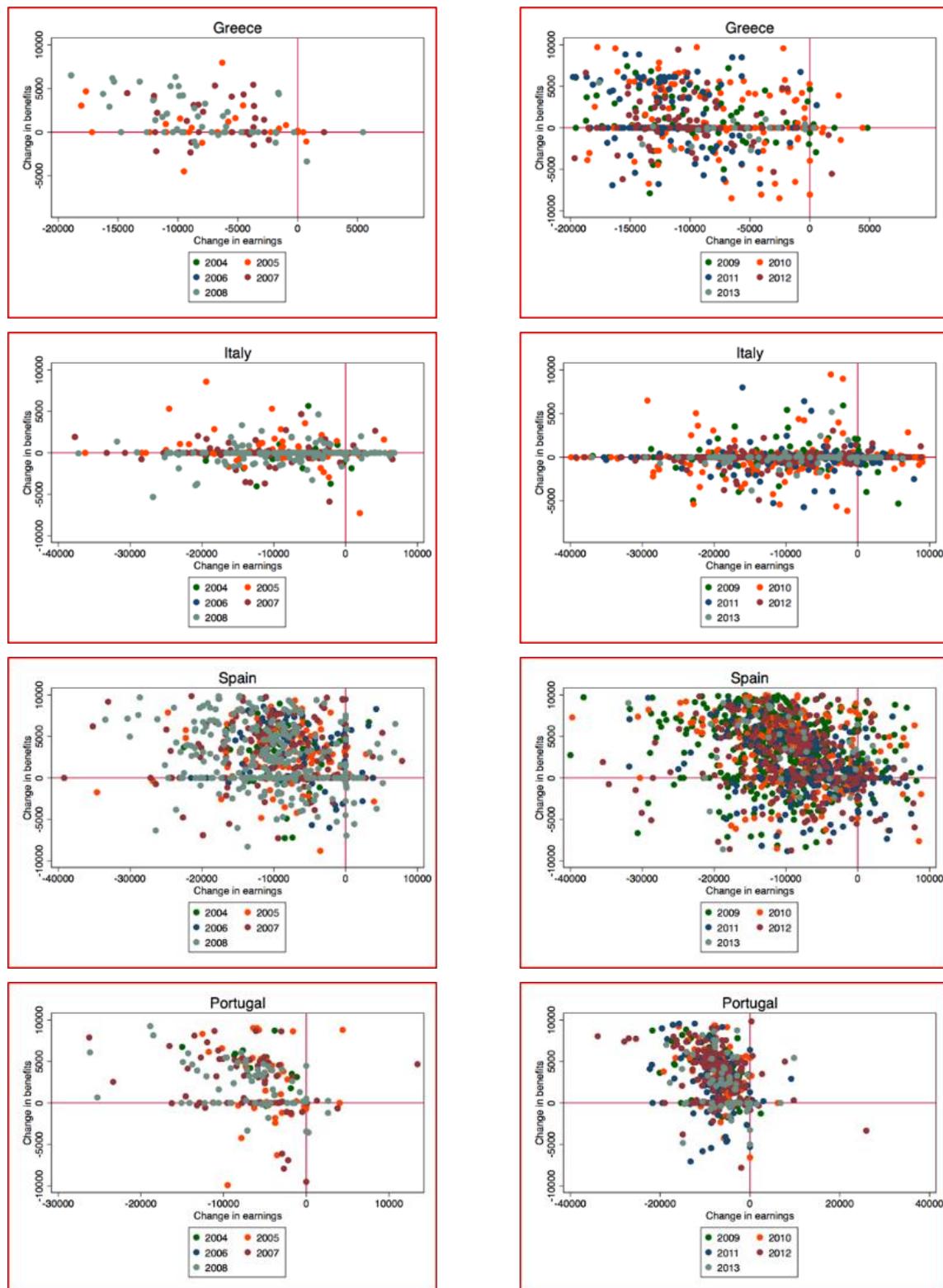
	Average replacement rate	
	2004-08	2009-13
Greece	130%	74%
Italy	116%	107%
Spain	100%	88%
Portugal	120%	112%

Note: Average increase in income from labour earnings of other household members in t_2 relative to t_1 ($dY_1 > 0$) as a proportion of the reduction in labour earnings of the unemployed workers themselves in t_2 relative to t_1 ($dW < 0$). The average is calculated as $(\sum Y_{it_2} - \sum Y_{it_1}) / (\sum W_{t_2} - \sum W_{t_1})$. Our sample consists of individuals unemployed at t_2 .

Source: Own elaboration of EU-SILC longitudinal panel.

Figures 8 and 9 present the full scatter diagrams plotting the change in the individual earnings of works losing their job against the change in household income from receipt of social benefits other than pensions and labour earnings of other household members respectively.

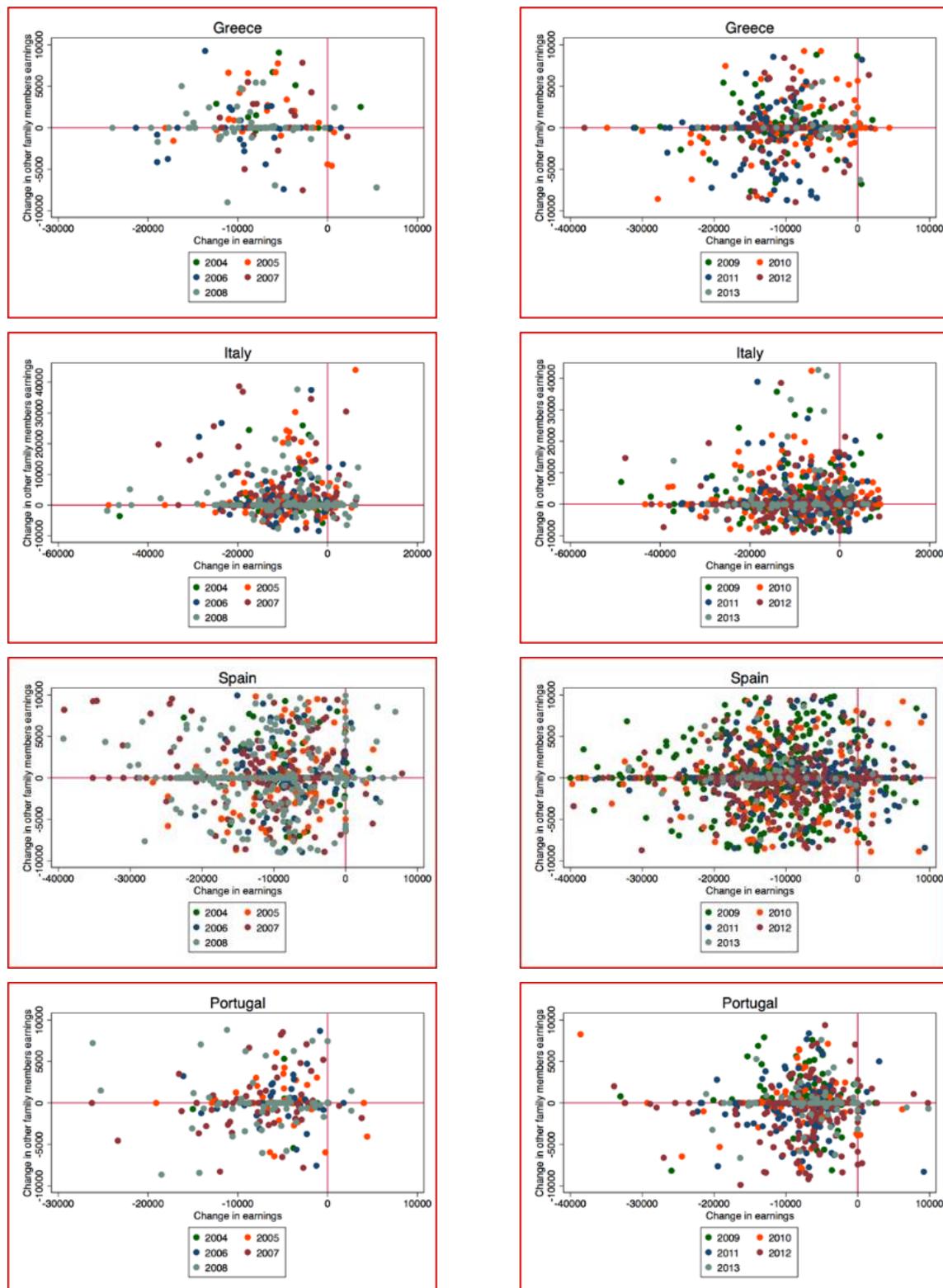
Figure 8: *Social benefits other than pensions as buffers (2004-08 vs. 2009-13)*



Note: Horizontal axis: absolute change in individual earnings of unemployed workers in t_2 vs t_1 . Vertical axis: absolute change in household income from social benefits other than pensions in t_2 vs t_1 in 2004-08 (left-hand panel) and in 2009-13 (right-hand panel).

Source: Own elaboration of EU-SILC longitudinal panel.

Figure 9: *Labour earnings of other household members as buffers (2004-08 vs. 2009-13)*



Note: Horizontal axis: absolute change in individual earnings of unemployed workers in t_2 vs t_1 .
 Vertical axis: absolute change in household income from labour earnings of other household members in t_2 vs t_1 in 2004-08 (left-hand panel) and in 2009-13 (right-hand panel).

Source: Own elaboration of EU-SILC longitudinal panel.

9. Concluding remarks

What are the main points emerging from our research?

To start with, the assessment of the distributional impact of the crisis and the austerity is made complex by re-ranking and regression towards the mean. As shown earlier, in all four countries, changes in the income distribution appear ‘progressive’ (inequality-reducing) from the perspective of the 2009 distribution, but ‘regressive’ (inequality-increasing) from that of the 2012 distribution. In other words, the population groups that lost most were not necessarily poor pre-crisis, but ended at the bottom of the income distribution (sometimes from much higher up) during the crisis.

In general, average changes conceal very considerable variation. Economic life tends to be more complex than is often realised. In this case, income losses for most during the recession coexisted with income gains for some. For instance, in Greece, in 2009-2012, when the economy collapsed and joblessness rose steeply, 17% of all individuals in our sample actually saw their household income rise over the period.

Moreover, the distribution of gains and losses (and of winners and losers) can be counter-intuitive. Again in Greece, as many as 56% of those who in 2009 were in the poorest decile actually gained income in 2009-12 (though only 7% of those who were in the same decile in 2012).

As regards social benefits other than pensions as buffers to income loss following job loss a complex pattern emerges. Their performance in Spain and Portugal, in terms of both coverage and adequacy, was better and improving during the crisis (relative to an earlier period). In Italy, where the performance of social benefits as buffers was poor to start with, coverage fell further, while adequacy (for the smaller number of recipients) went up from a low level. In Greece, both coverage and adequacy worsened during the crisis.

The frequency of higher earnings by other household members at least partly compensating for earnings loss in the event of job loss in the same household decreased in all four countries (from around a third of cases in 2004-08 to around a quarter in 2009-12). This, of course, was hardly surprising at a time of high unemployment and hence poor employment prospects. Given that, the extent to which higher earnings of other household members compensated for the lost earnings of the person who became unemployed fell the most in Greece, and to a lesser extent in Spain, Portugal, and in Italy.

What might lie behind these developments? As argued elsewhere (see Perez and Matsaganis 2018), governments and other social and political actors in South Europe wished to protect the “old poor” (e.g. pensioners) and favourite constituencies (e.g. public sector workers). Conversely, the “new poor” (unemployed workers and their families) were not particularly strong politically, nor seen as vulnerable to start with. These groups found themselves caught in the middle of the fight for limited resources, and risked neglect, although they suffered significant income losses and saw their relative position deteriorate in the course of the crisis. Political legacies in Spain, and especially in Portugal, mitigated this general tendency.

This pattern was reinforced by the distinct logic of different social programmes. For instance, spending on pensions and other core programmes is driven by factors (such as demographic change and maturation of entitlements) that are built over the long run, and are not as amenable to short-term management (through either policy reform or benefit cuts). In contrast, ‘social stabilizers’ (like unemployment and social assistance benefits) are far smaller in size. Besides, the over-development of the former and under-development of the latter remains a trait of systems of social protection in southern Europe, especially in Italy and Greece.

Overall, South European welfare states remain ill-suited to the emerging pattern of poverty (low work intensity households and other poor families with children living in cities). Earlier progress was reversed as a result of policy changes restricting the generosity of minimum income support in Portugal (in 2011-13), and of unemployment benefits in Spain (in 2012). As for recent improvements in social safety nets (such as the overhaul of unemployment benefits in Italy in 2015, and the introduction of a nationwide guaranteed minimum income scheme in Greece in 2017 and in Italy in 2018), they do represent significant corrections of long-standing flaws, but came too late to soften the social impact of the economic crisis.

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