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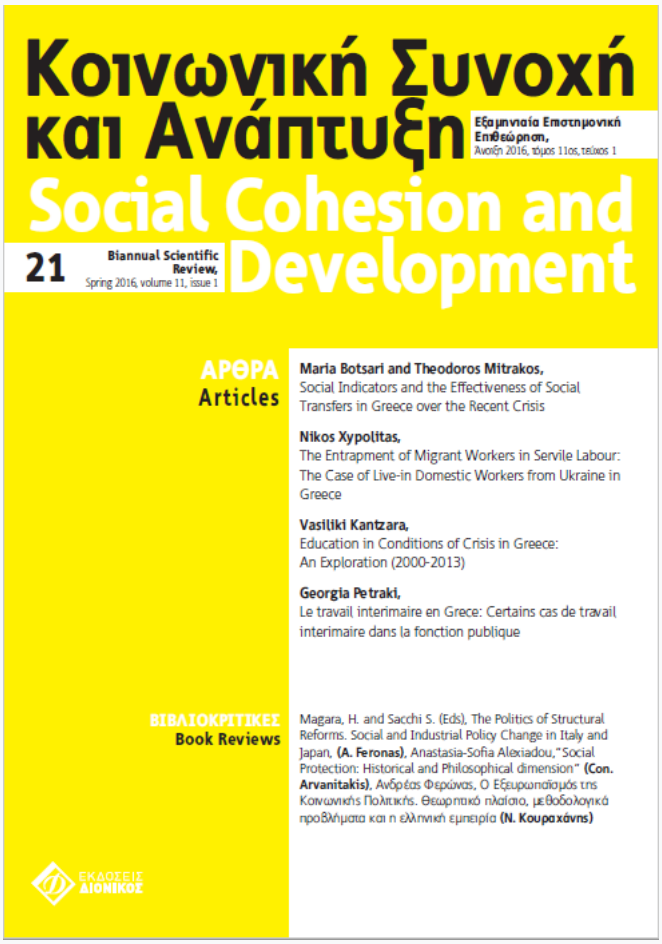

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Social Indicators and the Effectiveness of Social Transfers in Greece over the Recent Crisis

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Κοινωνικοί Δείκτες και η Αποτελεσματικότητα των Κοινωνικών Παροχών στην Ελλάδα κατά την Πρόσφατη Κρίση

Μαρία Μπότσαρη και Θεόδωρος Μητράκος, *Τράπεζα της Ελλάδας*

ABSTRACT

In this paper we present key statistics on poverty, inequality and social exclusion in Greece and the eurozone over the crisis period 2009-2014. The data presented in this paper reveal that six years of economic recession and austerity in Greece have had a significant negative impact on rates of poverty and social exclusion, which have reached historically unprecedented and socially unacceptable high levels. Our data and analyses suggest that the Welfare State, one of the major functions of which is to redistribute income collected through taxation via social transfers, is the least effective in Greece, among all eurozone countries, in alleviating poverty and income inequality. Greece is ranked last in the Eurozone in terms of trust in government, freedom of choice, perceived levels of public sector corruption, and happiness, and third and second to last, respectively, in terms of trust in others and social support. We argue that the erosion of the social fabric and the perceived quality of the Greek climate of trust appear to be part of the story of Greece being the biggest happiness loser among 125 countries from 2005-2007 to 2012-2014.

KEY WORDS: Poverty, social exclusion, inequality, social transfers, effectiveness.

ΠΕΡΙΛΗΨΗ

Στην εργασία αυτή παρουσιάζονται και αναλύονται βασικοί δείκτες σχετικοί με τη φτώχεια, την οικονομική ανισότητα και τον κοινωνικό αποκλεισμό στην Ελλάδα και την ευρωζώνη κατά την περίοδο της οικονομικής κρίσης 2009-2014. Τα διαθέσιμα στοιχεία δείχνουν ότι τα έξι έτη οικονομικής ύφεσης και λιτότητας στην Ελλάδα είχαν σημαντικές αρνητικές επιπτώσεις στα ποσοστά φτώχειας και κοινωνικού αποκλεισμού, τα οποία ανήλθαν σε ιστορικά πρωτοφανή και κοινωνικά μη αποδεκτά υψηλά επίπεδα. Τα στοιχεία και οι αναλύσεις της εργασίας καταδεικνύουν ότι το Κοινωνικό Κράτος, του οποίου μια από τις κύριες αποστολές είναι η αναδιανομή του εισοδήματος μέσω των κοινωνικών παροχών, είναι το λιγότερο αποτελεσματικό μεταξύ των χωρών της ευρωζώνης στη μείωση της φτώχειας και της εισοδηματικής ανισότητας. Η Ελλάδα κατατάσσεται τελευταία στην ευρωζώνη ως προς την εμπιστοσύνη στην κυβέρνηση, την ελευθερία επιλογών, την αντίληψη διαφθοράς στον δημόσιο τομέα και την υποκειμενική ευτυχία. Είναι, ακόμα, στις τελευταίες θέσεις ως προς την εμπιστοσύνη στους άλλους και την κοινωνική στήριξη. Θεωρούμε ότι η διάβρωση του κοινωνικού ιστού και η αρνητική αντίληψη του κλίματος εμπιστοσύνης στην Ελλάδα είναι δύο παράγοντες που συνέβαλαν σε μεγάλο βαθμό ώστε η Ελλάδα να καταγράψει τις μεγαλύτερες απώλειες στα επίπεδα υποκειμενικής ευτυχίας από την περίοδο 2005-2007 στην περίοδο 2012-2014 μεταξύ 125 χωρών παγκοσμίως.

ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ: Φτώχεια, κοινωνικός αποκλεισμός, ανισότητα, κοινωνικές παροχές, αποτελεσματικότητα.

1. Introduction

Poverty, income inequality and well-being in general have significantly worsened in Greece in the last six years because of the deep recession caused by austerity measures. Not surprisingly, in 2014, Greece was the Eurozone country with the highest rate of people at risk of poverty or social exclusion across the age groups from birth to 54 years, the highest rate of people at risk of poverty, the highest level of inequality with respect to the S80/S20 index and with a level of inequality with respect to the Gini coefficient just one percentage point lower than its highest value recorded in Spain. Greece was also the biggest well-being loser among 125 countries from 2005-2007 to 2012-2014. Last but not least, Greece is ranked last in terms of the effectiveness of social protection expenditure in contributing to poverty reduction. The differences in poverty reduction effectiveness of social transfers across Member States suggest that factors other than the percentage of GDP spent on social protection influence poverty reduction outcomes.

Section 2 presents the main data source and discusses methodological issues. Section 3 presents key statistics on poverty and social exclusion across all age groups – inclusive of children from birth to 17 years of age – and across all educational attainment levels. Section 4 is devoted to income inequality as measured by the Gini coefficient and the S80/S20 index. The poverty reduction effectiveness of social transfers is the topic of Section 5, while Section 6 refers to indicators of subjective well-being which are increasingly considered proper measures of social progress and a goal of public policy. The final remarks and summary of the findings are provided in the concluding section.

2. Data and methodological issues

The current study, presents comparisons of social indicators (risk of poverty, social exclusion, inequality etc.) between EU countries. Data are derived by Eurostat's database, comprising harmonized statistics and offer an objective portrayal of social and economic trends.[1] Some of these indicators are broken down by educational attainment level, age group or other socio-economic characteristics of the household head. However, as often mentioned in the relevant literature (Atkinson 1995; Cowell 1995), the design of social indicators has some weaknesses and methodological shortcomings. As early as 1920, Dalton was arguing that underlying any index of inequality there is some concept of social welfare (and, hence, a specific Social Welfare Function). Therefore, a comparison between the estimates of a particular index for two distributions involves an implicit or explicit normative judgment as to whether one distribution is to be preferred to another. Then, one can ask whether it is possible to rank unambiguously two distributions without using a specific index of inequality.

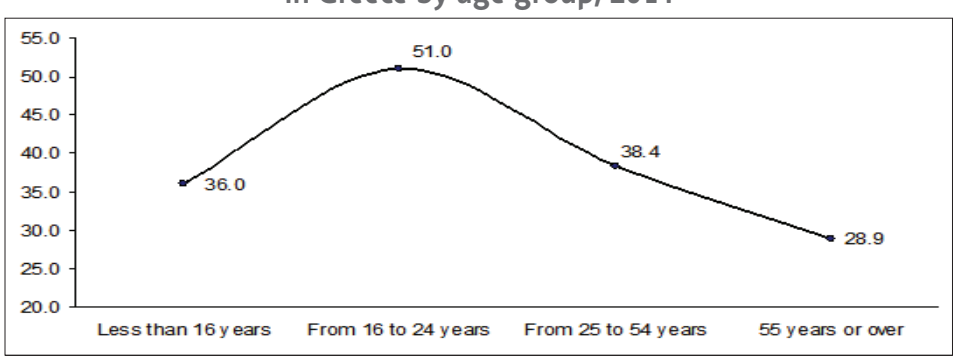
The Gini coefficient and the S80/S20 index which are used in the present study to measure income inequality satisfy the basic axioms of inequality measurement (symmetry, mean-independence, population-independence and the Dalton-Pigou principle of transfers) and are sensitive to different types of transfers. In comparison with most indices used in empirical studies, Gini is relatively more sensitive to transfers close to the middle of the distribution, while S80/S20 more sensitive to transfers close to the top or the bottom of the distribution. Hence, the combined use of these indices satisfies a different range of tastes regarding the responsiveness of an index to different types of transfers. Further, alternative poverty measures are also employed at this paper in order to moderate the weaknesses of social indicators.

The at-risk-of poverty rate derived from the percentage of households in the population with incomes less than 60 per cent of the median is the European Union headline measure of poverty which has been incorporated into the EU 2020 poverty and social exclusion target. However, the approach to poverty measurement based on relative income has been criticized, as it may underestimate poverty while cross-country comparisons of relative poverty measures such as the at risk of poverty rate have to be done carefully for a number of reasons (Bradshaw and Mayhew, 2010; Eurostat, 2013). Although data are collected in all European countries through a single instrument (EU-SILC), the full harmonization of the definition for each income component is difficult to reach. The risk of poverty threshold is related to the general level of income, and its distribution, over the whole population. This threshold may, therefore, change in various directions from one year to another when individual incomes change suddenly, as it has occurred since the beginning of the economic crisis in many countries. Then, the focus on the monetary side excludes from the concept some benefits in kind (education, health, childcare, etc.) which – depending on the relative generosity of national social systems – may have a different impact on the disposable income.

3. Poverty and Social Exclusion

As is evident from Table 1, in 2013 Greece was the Eurozone country with the highest rate of people at risk of poverty or social exclusion.[2] This rate rose further by 0.3 percentage points to 36% in 2014, showing a cumulative increase of more than 8 percentage points during the crisis period 2009-2014. Table 2 presents the percentage of total population at risk of poverty or social exclusion in the Eurozone by age group. Figure 1, which is based on the data in Table 2 for Greece, reveals an inverse U-shaped trend in the rates of people at risk of poverty or social exclusion across age groups, which is worrying to watch and calls for attention and policy consideration and reforms. As can be seen, youth aged from 16 to 24 years have seen the most severe deterioration in their income and living conditions. The rate of at risk of poverty or social exclusion for this age group in 2014 was by 35% to 75% higher than the corresponding rates for the other three age groups and has seen an increase of 18.8 percentage points since the beginning of the crisis in 2009. Moreover, in 2014, Greece recorded the largest gap, equal to 15 percentage points, between the at risk of poverty or social exclusion rate of youth aged from 16 to 24 years and that of total population.

Figure 1: Rate of people at risk of poverty or social exclusion in Greece by age group, 2014



Source: Eurostat.

Table 1: Percentage of total population at risk of poverty or social exclusion in the eurozone, 2009-2014

Country	Year					
	2009	2010	2011	2012	2013	2014
Netherlands	15.1	15.1	15.7	15.0	15.9	16.5
Finland	16.9	16.9	17.9	17.2	16.0	17.3
Slovakia	19.6	20.6	20.6	20.5	19.8	18.4
France	18.5	19.2	19.3	19.1	18.1	18.5
Luxembourg	17.8	17.1	16.8	18.4	19.0	19.0
Austria	19.1	18.9	19.2	18.5	18.8	19.2
Slovenia	17.1	18.3	19.3	19.6	20.4	20.4
Germany	20.0	19.7	19.9	19.6	20.3	20.6
Belgium	20.2	20.8	21.0	21.6	20.8	21.2
Malta	20.3	21.2	22.1	23.1	24.0	23.8
Estonia	23.4	21.7	23.1	23.4	23.5	26.0
Lithuania	29.6	34.0	33.1	32.5	30.8	27.3
Ireland	25.7	27.3	29.4	30.0	29.5	27.4
Cyprus	23.5	24.6	24.6	27.1	27.8	27.4
Portugal	24.9	25.3	24.4	25.3	27.5	27.5
Italy	24.9	25.0	28.1	29.9	28.5	28.3
Spain	24.7	26.1	26.7	27.2	27.3	29.2
Latvia	37.9	38.2	40.1	36.2	35.1	32.7
Greece	27.6	27.7	31.0	34.6	35.7	36.0

Source: Eurostat.

Tables 3 and 4 present the at risk of poverty or social exclusion rates by educational attainment level for population aged 18 and over and by parents' level of education for children aged 0-17 years, respectively. The data in Table 3 suggest that the at risk of poverty or social exclusion rate for population aged 18 and over is directly linked to the educational attainment level of the individuals: the less educated one is, the more likely one is to be at risk of poverty or social exclusion. Across the 18 countries of the Eurozone for which data are available for 2014, the at risk of poverty or social exclusion rate for individuals with pre-primary, primary and lower secondary education – equal to 33.2% – was by 11.5 percentage points greater than the corresponding rate for individuals with upper secondary and post-secondary non-tertiary education – equal to 21.7% – which in turn was by 9.2 percentage points greater than that for individuals with first and second stage of tertiary education – equal to 12.5%. As can be seen, Greece recorded the highest at risk of poverty or social exclusion rate among the Eurozone countries, the third highest rate after Latvia and Lithuania among those with pre-primary, primary and lower secondary education and the highest rates for the other two educational groups.

Table 2: Percentage of total population at risk of poverty or social exclusion in the Eurozone by age group, 2014

Country	Age group			
	Less than 16 years	From 16 to 24 years	From 25 to 54 years	55 years or over
Slovakia	23.4	21.1	17.6	15.8
Austria	23.8	21.2	17.5	18.3
Slovenia	17.6	21.5	18.7	24.2
Estonia	23.5	23.2	21.9	33.7
Germany	19.3	23.9	20.3	20.7
Malta	30.9	24.1	20.9	23.9
France	21.4	26.2	18.3	14.6
Luxembourg	25.7	26.2	18.1	12.5
Netherlands	17.0	26.2	17.0	11.9
Belgium	22.3	27.2	20.5	19.3
Finland	15.5	27.2	15.1	17.4
Lithuania	28.5	28.7	23.8	30.9
Cyprus	24.6	32.1	26.7	28.0
Latvia	34.5	32.7	28.6	37.1
Portugal	30.8	34.8	26.2	25.3
Italy	31.9	36.5	29.8	22.6
Spain	35.4	38.7	31.6	19.1
Ireland	29.1	41.6	26.1	21.2
Greece	36.0	51.0	38.4	28.9

Source: Eurostat.

As it follows from Tables 3 and 4, the risk of facing poverty or social exclusion is not only affected by the educational attainment of the individuals themselves, but also the educational attainment level of parents has an impact on their children's risk of falling in poverty or social exclusion. The association between parents' level of education and their children's risk of experiencing poverty or social exclusion is evident from Table 4, showing that the percentage of children living in a household at risk of poverty or social exclusion ranged from 15.6% in Finland to 36.7% in Greece. However, the total rate masks considerable variation across educational groups. While for parents with a qualification lower than upper secondary education the risk of their children facing poverty or social exclusion ranged from 42.8%in the Netherlands to 68.9% in Greece and 70.8% in Latvia, the corresponding rate for parents with tertiary education was much lower, ranging from 6.2% in Malta to 13.8% in Greece, 14.4% in Spain and 15.2% in Latvia. The situation is even more alarming when we look at children aged 0 through 6 years. Figure 2 reveals that 81.7% of Greek children from birth to the age of six, whose parents lack even an upper secondary qualification, live in poverty or social exclusion. It is clear that there is a strong negative relation between child poverty and their parents' level of education.

Table 3: Percentage of population of the Eurozone countries aged 18 and over at risk of poverty orsocial exclusion in 2014 by educational attainment level

Country	Levels 0-2	Levels 3-4	Levels 5-6	Total
Netherlands	18.7	18.7	11.0	16.2
Luxembourg	25.8	13.7	8.4	16.9
Slovakia	33.0	17.1	7.6	17.2
Finland	26.0	21.2	6.5	17.3
France	26.0	17.2	9.8	17.6
Austria	31.7	16.2	11.8	18.2
Belgium	35.0	19.3	10.0	20.5
Germany	39.6	21.9	12.5	20.7
Slovenia	37.4	21.4	8.0	21.0
Malta	30.1	13.1	5.3	22.1
Estonia	39.9	28.0	16.9	26.5
Portugal	32.2	19.7	10.8	26.6
Lithuania	42.9	30.8	10.0	27.0
Italy	34.6	23.5	15.4	27.5
Spain	34.9	27.6	15.3	27.8
Cyprus	40.8	29.5	14.4	28.1
Latvia	50.3	31.8	15.4	31.5
Greece	41.8	39.8	18.7	35.7

Source: Eurostat.
Note: Levels 0-2: pre-primary, primary and lower secondary education; levels 3-4: upper secondary and post-secondary non-tertiary education; levels 5-6: first and second stage of tertiary education. Empty cells indicate that data are not available.

Table 4: Percentage of Children of the Eurozone Countries Aged 0-17 Years at Risk of Poverty or Social Exclusion in 2014 by Educational Attainment Level of their Parents

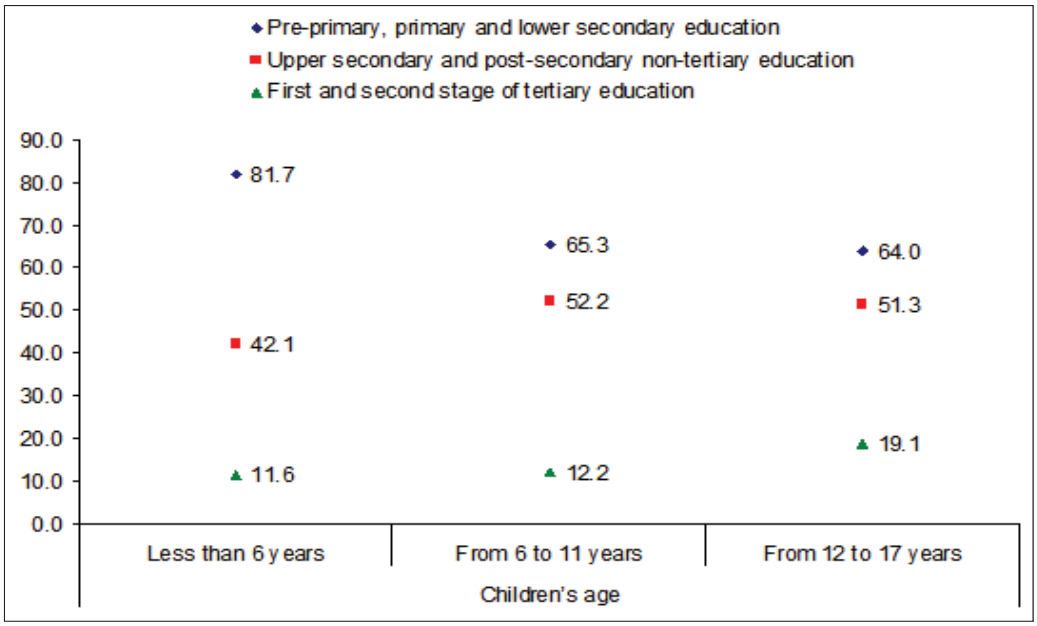
	Levels 0-2	Levels 3-4	Levels 5-6	Total
Finland	58.3	25.4	7.0	15.6
Netherlands	42.8	21.7	9.8	17.1
Slovenia	45.7	26.6	7.1	17.7
Germany	68.4	26.5	8.6	19.6
France	60.8	28.4	8.1	21.6
Belgium	64.3	30.6	9.2	23.2
Austria	65.4	23.6	12.8	23.3

	Levels 0-2	Levels 3-4	Levels 5-6	Total
Slovakia	93.5	24.5	11.7	23.6
Estonia	57.2	33.3	12.2	23.8
Cyprus	53.1	30.7	14.7	24.7
Luxembourg	53.1	23.2	9.8	26.4
Lithuania	68.6	43.1	8.8	28.9
Ireland				30.3
Malta	55.1	16.6	6.2	31.3
Portugal	48.1	23.2	7.0	31.4
Italy	58.5	29.6	13.0	32.1
Latvia	70.8	42.5	15.2	35.3
Spain	64.1	44.3	14.4	35.8
Greece	68.9	48.7	13.8	36.7

Source: Eurostat.

Table 5 displays the at-risk-of-poverty rates in the Eurozone countries over the period 2009-2014. We recall that risk of poverty is one of the three elements contributing to being at risk of poverty or social exclusion (see note 1). In 2014, the highest at risk of poverty rates were observed in Spain (22.2%), Greece (22.1%), Estonia (21.8%) and Latvia (21.2%) and the lowest in the Netherlands (11.6%), Slovakia (12.6**%)** and Finland (12.8%). This rate for Greece means that the disposable income of 22.1% of its population was below the national poverty threshold.[3] We should note at this point that the poverty threshold varies over time and has fallen in a number of Eurozone Member States in recent years due to the financial and economic crisis. Indeed, in Greece the median equivalized net income fell from € 8,377 in 2013 to € 7,680 in 2014. While the median equivalized net income dropped between 2013 and 2014 by 8.32%, so did the at risk of poverty rate which decreased by one percentage point, implying that a number of people in Greece who were around the poverty threshold in 2013 moved above it merely as a result of the lowering of the threshold caused by the fall in the median income, even if their situation did not significantly change in 2014.

Figure 2: At Risk of Poverty or Social Exclusion Rates in Greece for Children Aged 0-17 Years by Educational Attainment Level of their Parents and Age Group, 2014



Source: Eurostat.

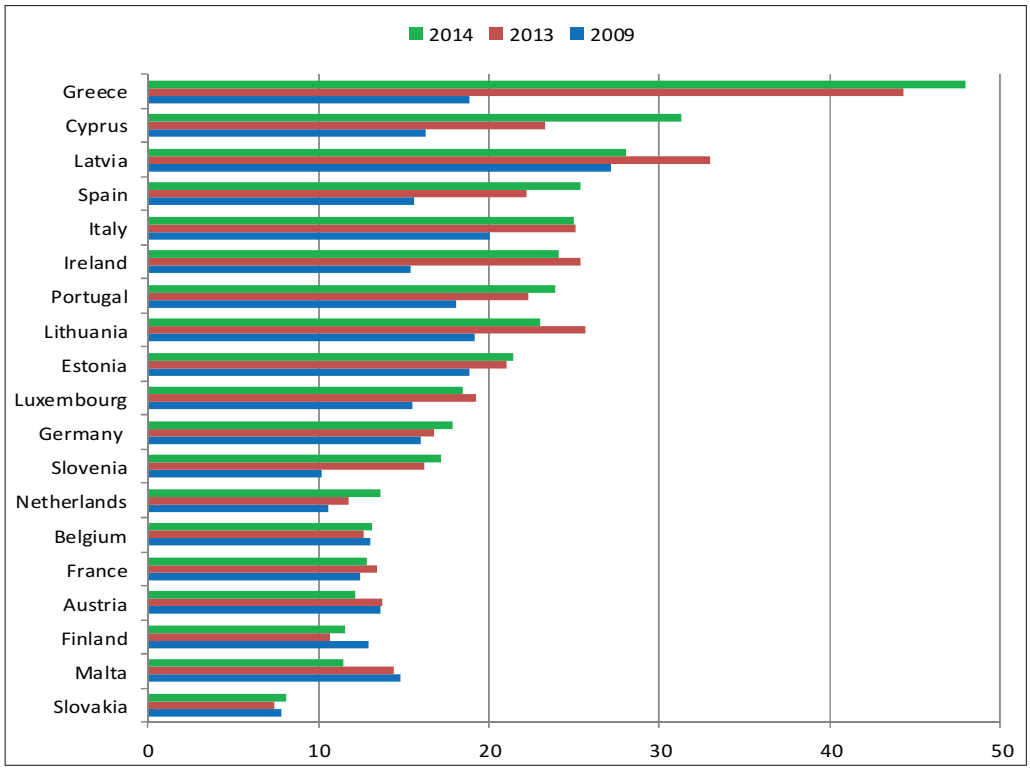
To keep the poverty threshold fixed in real terms over a longer period of time in order to avoid misleading results in periods of rapid and general economic deterioration and therefore to control the effects of a moving poverty threshold, Eurostat calculates the at risk of poverty indicator anchored in time. Figure 3 illustrates the at risk of poverty rates in the Eurozone anchored in 2008; as can be seen, between 2009 and 2014 the largest increases were observed in Greece (154%) and Cyprus (92%), while Malta, Finland and Austria reported decreases. With 48% in 2014, Greece was the country with the worst performance in this indicator as well, followed by Cyprus and Latvia which reported also high rates, but 16.7 and 20 percentage points, respectively, lower than that of Greece. Notably, Greece witnessed an additional increase of 3.7 percentage points in this indicator between 2013 and 2014, while, with the exception of Cyprus that also witnessed a high increase of 8 percentage points, for all other Eurozone countries the at risk of poverty rate anchored in 2008 either decreased or increased by at most 3.2 percentage points (in Spain).

Table 5: At Risk of Poverty Rates in the Eurozone, 2009-2014

	2009	2010	2011	2012	2013	2014
Netherlands	11.1	10.3	11.0	10.1	10.4	11.6
Slovakia	11.0	12.0	13.0	13.2	12.8	12.6
Finland	13.8	13.1	13.7	13.2	11.8	12.8
France	12.9	13.3	14.0	14.1	13.7	13.3
Austria	14.5	14.7	14.5	14.4	14.4	14.1
Cyprus	15.8	15.6	14.8	14.7	15.3	14.4
Slovenia	11.3	12.7	13.6	13.5	14.5	14.5
Ireland	15.0	15.2	15.2	15.7	14.1	15.3
Belgium	14.6	14.6	15.3	15.3	15.1	15.5
Malta	14.9	15.5	15.6	15.1	15.7	15.9
Luxembourg	14.9	14.5	13.6	15.1	15.9	16.4
Germany	15.5	15.6	15.8	16.1	16.1	16.7
Lithuania	20.3	20.5	19.2	18.6	20.6	19.1
Portugal	17.9	17.9	18.0	17.9	18.7	19.5
Italy	18.4	18.2	19.6	19.4	19.1	19.6
Latvia	26.4	20.9	19.0	19.2	19.4	21.2
Estonia	19.7	15.8	17.5	17.5	18.6	21.8
Greece	19.7	20.1	21.4	23.1	23.1	22.1
Spain	20.4	20.7	20.6	20.8	20.4	22.2

Source: Eurostat.

Figure 3: At Risk of Poverty Rates in the Eurozone Anchored at 2008



Source: Eurostat.

4. Income Inequality

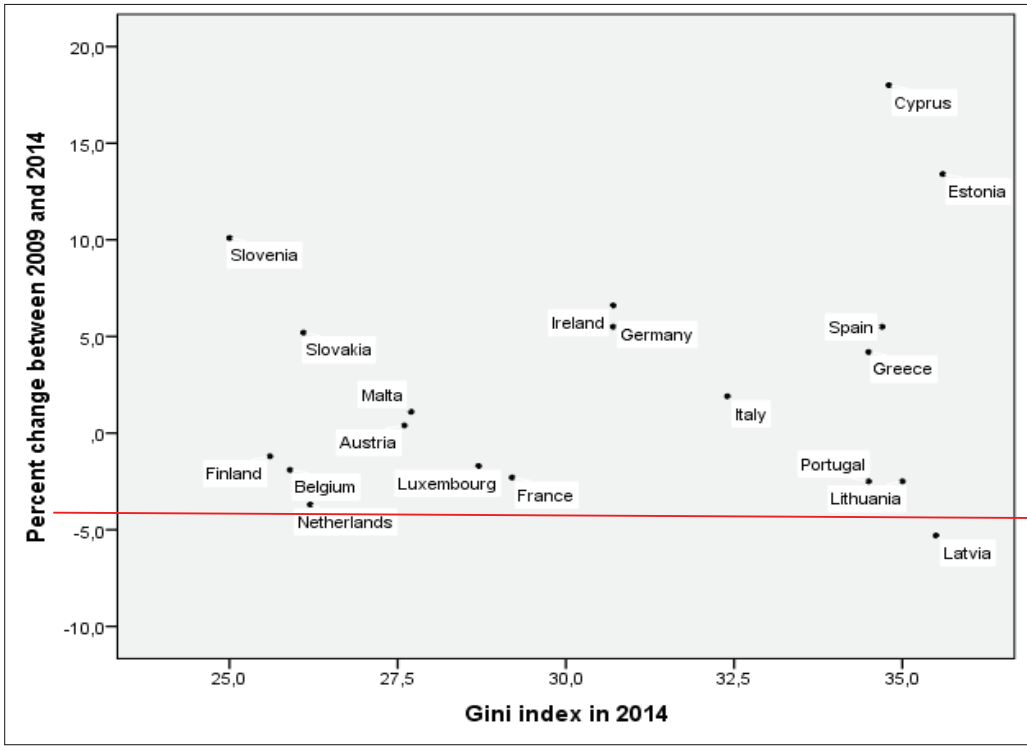
As follows from the data in Table 6, income inequality, as measured by the Gini coefficient, varied substantially among the Eurozone countries in 2014, being as low as about 25 in Slovenia and Finland and as high as about 35 in Greece, Portugal, Spain, Cyprus, Lithuania, Latvia and Estonia (on a scale from 0 to 100). From 2013 to 2014, the Gini coefficient remained almost stable in Greece, as in most of the Eurozone countries, while, where increases are observed, these do not exceed one unit with the exception of Estonia, Cyprus and Slovakia. Figure 4 shows the Gini value in 2014 plotted against its rate of change between 2009 and 2014. It can be seen that almost half of the Eurozone countries saw increases in income inequality over the period 2009-2014, while the other half of them saw decreases. The biggest increases were recorded in Cyprus (18%), Estonia (13.4%) and Slovenia (10.1%). Latvia and the Netherlands, with a 5.3% and 3.7%, respectively, decrease in the Gini coefficient, are the countries which managed to reduce inequality more than any other country in the Eurozone.

Table 6: Gini Coefficient in the Eurozone, 2019-2014

Country	2009	2010	2011	2012	2013	2014
Slovenia	22.7	23.8	23.8	23.7	24.4	25.0
Finland	25.9	25.4	25.8	25.9	25.4	25.6
Belgium	26.4	26.6	26.3	26.5	25.9	25.9
Slovakia	24.8	25.9	25.7	25.3	24.2	26.1
Netherlands	27.2	25.5	25.8	25.4	25.1	26.2
Austria	27.5	28.3	27.4	27.6	27.0	27.6
Malta	27.4	28.6	27.2	27.1	27.9	27.7
Luxembourg	29.2	27.9	27.2	28.0	30.4	28.7
France	29.9	29.8	30.8	30.5	30.1	29.2
Germany	29.1	29.3	29.0	28.3	29.7	30.7
Ireland	28.8	30.7	29.8	29.9	30.0	30.7
Italy	31.8	31.7	32.5	32.4	32.8	32.4
Greece	33.1	32.9	33.5	34.3	34.4	34.5
Portugal	35.4	33.7	34.2	34.5	34.2	34.5
Spain	32.9	33.5	34.0	34.2	33.7	34.7
Cyprus	29.5	30.1	29.2	31.0	32.4	34.8
Lithuania	35.9	37.0	33.0	32.0	34.6	35.0
Latvia	37.5	35.9	35.1	35.7	35.2	35.5
Estonia	31.4	31.3	31.9	32.5	32.9	35.6

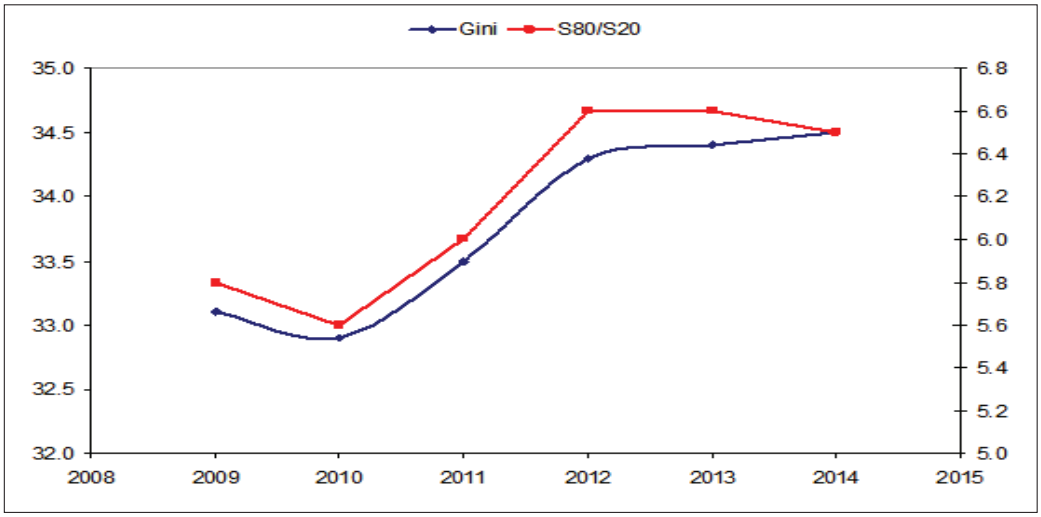
Source: Eurostat.

Figure 4: Rate of Change of the Gini Coefficient in the Eurozone, 2009-2014



Similar results are derived from another indicator of income inequality used to monitor social cohesion in the European Union: the income quintile share ratio (S80/S20), that is the ratio of total (equivalized) disposable income received by the top 20% of the population to that received by the bottom 20%. Leventi and Matsaganis (2013) note that the Gini coefficient is highly sensitive to inequalities in the middle of the income distribution, whereas the S80/S20 index is sensitive to changes at the two ends of the distribution. With a value of about 6.5, Estonia, Greece, Latvia and Spain had the highest level of inequality in 2014 in terms of the S80/S20 index, meaning that 20% of the population with the highest equivalized disposable income received approximately 6.5 times as much income as 20% of the population with the lowest equivalized disposable income. Figure 5 clearly shows that both the Gini coefficient and the S80/S20 index reflect very similar trends in income inequality in the case of Greece.

Figure 5: Evolution of Inequality in Greece Over the Period 2009-2014



Source: Eurostat.

5. Social Transfers as a Means of Alleviating Poverty and Inequality

Social transfers[4] were introduced long ago in many countries as a social policy tool which, if used effectively, would prevent and alleviate poverty and inequality. More recently, social transfers have been highlighted as an economic stabilizer for the effect of the crisis (Department of Social Protection, 2014). To evaluate the effects of social policy regarding the poor social groups and to measure the impact of social transfers on reducing the share of persons at risk of poverty, the at risk of poverty rate before social transfers is commonly used. This indicator measures a hypothetical situation where social transfers are absent (pensions not being considered as a social transfer). Comparing this with the standard at risk of poverty rate (after social transfers) enables to assess the redistributive effect that such transfers have in helping to reduce the number of people who are at risk of poverty. As a key role of social transfers is to alleviate poverty, their performance in reducing poverty has been a topic of intense research and academic debate (e.g. Herrmann, Tausch, Heshmati, and Bajalan, 2008; Tausch, 2011; Watson and Maître, 2013).

An index commonly used to evaluate social transfers' performance in cushioning people from the worst effects of rising unemployment and falling incomes is poverty reduction effectiveness, which refers to the extent to which social transfers achieve the goal of reducing poverty and is given by:

$$(AROP_b - AROP_a)/AROP_b$$

where $AROP_b$ is the at risk of poverty rate before social transfers (pensions excluded from social transfers) and $AROP_a$ is the at risk of poverty rate after social transfers (Watson and Maître, 2013). Table7 presents the social protection expenditure in % GDP, the $AROP_b$, the $AROP_a$,

and the poverty reduction effectiveness of social transfers in the Eurozone in 2012 (pensions excluded from social transfers). The Pearson *r* correlation between social protection expenditure and poverty reduction effectiveness of social transfers was found equal to 0.65, $p = 0.003$. These figures represent a highly significant strong relation despite the very small sample size (N = 19 Eurozone countries). The correlation between social protection expenditure and the at risk of poverty rate was found moderately negative ($r = -0.40$) and statistically significant at the $p = 0.10$ level. The data in Table 8 show that, with a 13.8%, Greece is ranked last among Eurozone countries in terms of poverty reduction effectiveness. Figure 6 illustrates the scatterplot of poverty reduction effectiveness versus social protection expenditure. Below the trend line are countries for which social transfers are less effective in alleviating income poverty than would be predicted from their social protection expenditure. Note that all countries of the European South find themselves below the trend line, indicating that poverty reduction is lower than what should be expected from their level of social transfers. Greece, being the country which falls the most below the regression line, seems to represent a special outlier case.

These findings are consistent with the data in Table 8, which presents Gini coefficient in the Eurozone before and after social transfers (pensions excluded from social transfers). As is evident in Table 9, social transfers do attenuate income inequality but they have different degrees of impact in reducing inequality across countries. With a 32.7% decrease in the Gini coefficient before and after social transfers in 2014, Ireland heads by far the list. Finland, Belgium, Slovenia, Luxembourg and Netherlands have also seen high decreases, all above 20%. At the other end of the list, Greece recorded the smallest percentage decrease in the Gini coefficient after inclusion of social transfers among the income sources, followed by Italy, Cyprus, Latvia and Estonia. In these countries, inequality was reduced by less than 10%. Figure 7 highlights the underperformance of the Social State in reducing income inequality in the countries of the European South, as all these countries fall below the trend line.

Table 7: Social Protection Expenditure in % GDP, AROPb, AROPa, and Poverty Reduction Effectiveness of Social Transfers, 2012

	Social protection expenditure in % GDP	AROPb	AROPa	Poverty reduction effectiveness of social transfers
Ireland	25.2	39.3	15.7	60.1
Finland	18.2	26.9	13.2	50.9
Belgium	18.4	27.7	15.3	44.8
Netherlands	19.9	20.6	10.1	51.0
Lithuania	8.8	28.4	18.6	34.5
Estonia	7.7	24.8	17.5	29.4
Austria	15.2	25.8	14.4	44.2
Luxembourg	13.5	29.0	15.1	47.9
Slovenia	13.8	25.2	13.5	46.4
Slovakia	10.0	20.0	13.2	34.0

	Social protection expenditure in % GDP	AROPb	AROPa	Poverty reduction effectiveness of social transfers
France	19.0	23.8	14.1	40.8
Cyprus	13.6	23.5	14.7	37.4
Germany	17.2	24.3	16.1	33.7
Latvia	5.8	25.7	19.2	25.3
Spain	13.9	29.1	20.8	28.5
Malta	9.7	24.0	15.1	37.1
Portugal	12.1	25.3	17.9	29.2
Italy	13.6	24.4	19.4	20.5
Greece	13.7	26.8	23.1	13.8

Note: Pensions are excluded from social transfers and social protection expenditure. Administrative and other costs are included in social protection expenditure.
Source: Authors' calculations based on Eurostat data.

Figure 6: Scatterplot of Poverty Reduction Effectiveness versus Social Protection Expenditure

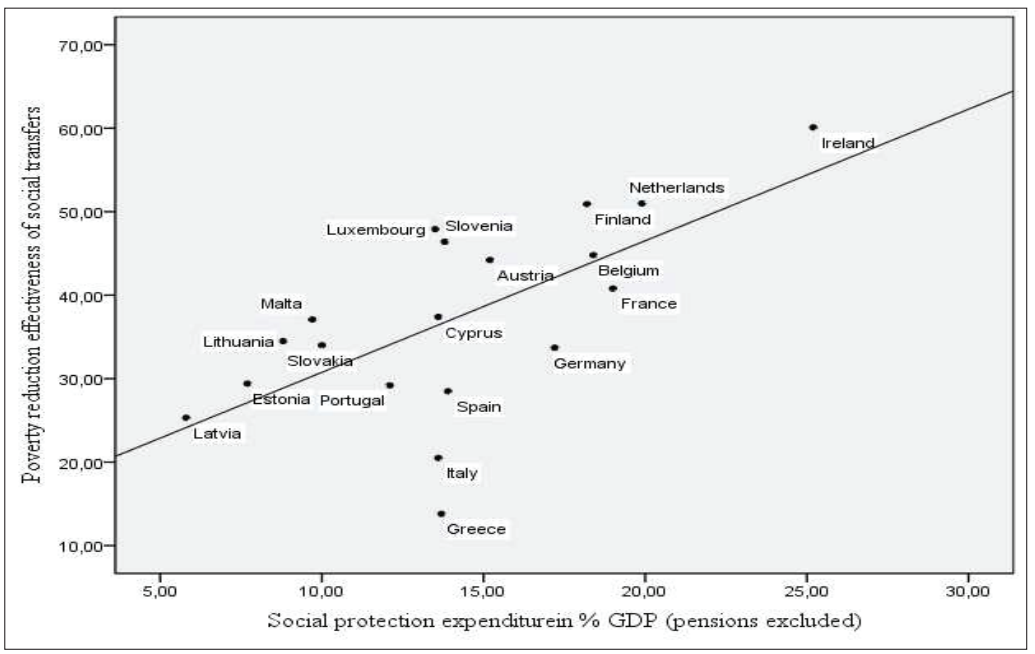
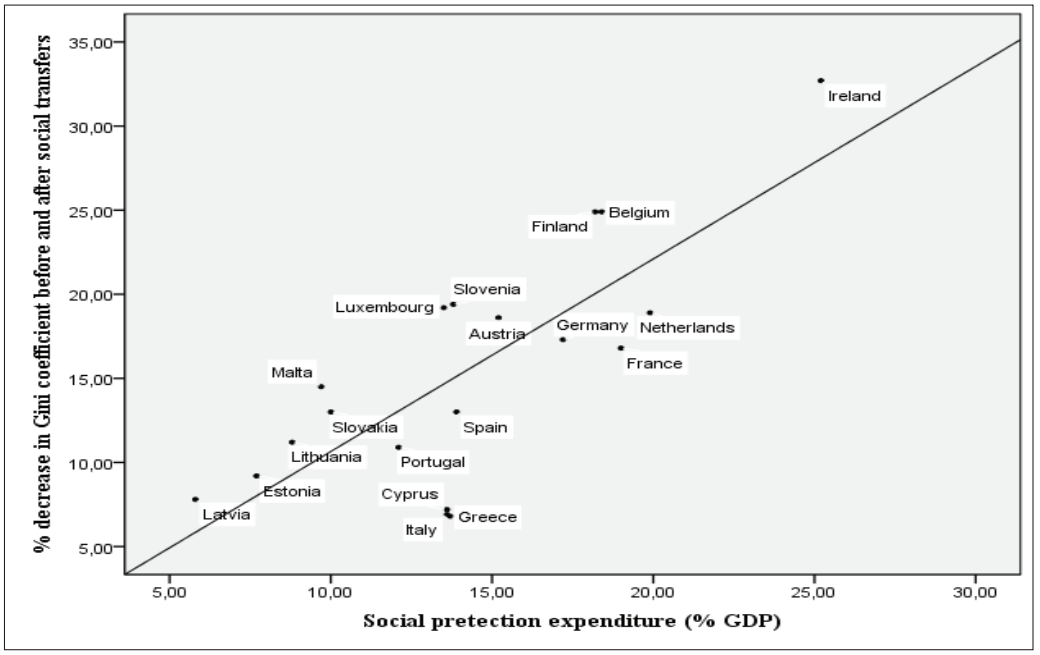


Figure 7 Scatterplot of Percentage Change of Gini Coefficient After Social Transfers versus Social Protection Expenditure



Note: Pensions are excluded.

It has been argued (World Bank, 1997) that social assistance may be less effective at alleviating poverty, due primarily to poor targeting and inadequate transfer amounts for those most in need. Table 9 presents the means-tested and non means-tested social benefits in % of the GDP for EU-28 and the Eurozone countries in 2012, the most recent year for which data are available for all countries. Eurostat distinguishes means-tested and non means-tested benefits. A means test is a determination of whether an individual or family is eligible for government assistance, based upon whether the individual or family possesses the means to do without that help. The social benefits expenditure in Table 9 covers the functions of sickness/healthcare, disability, family/children, unemployment, housing and social exclusion benefits not elsewhere classified. The data in Table 9 show that Greece's total expenditure in 2012 on these functions (in percent of GDP) was by 2.2 percentage points below the EU-28 average but almost half than that of Ireland. Note also that the means-tested benefits in Greece, as a percentage of total benefits on these functions, is only 9.7% compared with 13.0% in the EU-28 and 30.4% in Ireland.

Table 8 Gini Coefficient Before and After Social Transfers in the Eurozone (pensions excluded from social transfers) in 2012 and in 2014

Country	2014			2012		
	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease
Ireland	45.6	30.7	32.7	46.0	29.9	35.0
Belgium	34.5	25.9	24.9	35.1	26.5	24.5
Finland	34.1	25.6	24.9	34.2	25.9	24.3
Slovenia	31.0	25.0	19.4	30.1	23.7	21.3
Luxembourg	35.5	28.7	19.2	35.3	28.0	20.7
Netherlands	32.3	26.2	18.9	32.0	25.4	20.6
Austria	33.9	27.6	18.6	33.6	27.6	17.9
Germany	37.1	30.7	17.3	34.5	28.3	18.0
France	35.1	29.2	16.8	36.0	30.5	15.3
Malta	32.4	27.7	14.5	31.8	27.1	14.8
Spain	39.9	34.7	13.0	38.7	34.2	11.6
Slovakia	30.0	26.1	13.0	29.1	25.3	13.1
Lithuania	39.4	35.0	11.2	37.7	32.0	15.1
Portugal	38.7	34.5	10.9	38.7	34.5	10.9
Estonia	39.2	35.6	9.2	35.9	32.5	9.5
Latvia	38.5	35.5	7.8	38.8	35.7	8.0
Cyprus	37.5	34.8	7.2	34.1	31.0	9.1
Italy	34.8	32.4	6.9	34.6	32.4	6.4
Greece	37.0	34.5	6.8	36.6	34.3	6.3

Source: Eurostat.

Table 9 Means-Tested and Non Means-Tested Social Benefits Expenditure for EU-28 and the Eurozone, in % of the GDP, 2012

Country	2014			2012		
	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease
Ireland	45.6	30.7	32.7	46.0	29.9	35.0
Belgium	34.5	25.9	24.9	35.1	26.5	24.5
Finland	34.1	25.6	24.9	34.2	25.9	24.3

Country	2014			2012		
	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease	Gini coefficient before social transfers	Gini coefficient after social transfers	% decrease
Luxembourg	35.5	28.7	19.2	35.3	28.0	20.7
Netherlands	32.3	26.2	18.9	32.0	25.4	20.6
Austria	33.9	27.6	18.6	33.6	27.6	17.9
Germany	37.1	30.7	17.3	34.5	28.3	18.0
France	35.1	29.2	16.8	36.0	30.5	15.3
Malta	32.4	27.7	14.5	31.8	27.1	14.8
Spain	39.9	34.7	13.0	38.7	34.2	11.6
Slovakia	30.0	26.1	13.0	29.1	25.3	13.1
Lithuania	39.4	35.0	11.2	37.7	32.0	15.1
Portugal	38.7	34.5	10.9	38.7	34.5	10.9
Estonia	39.2	35.6	9.2	35.9	32.5	9.5
Latvia	38.5	35.5	7.8	38.8	35.7	8.0
Cyprus	37.5	34.8	7.2	34.1	31.0	9.1
Italy	34.8	32.4	6.9	34.6	32.4	6.4
Greece	37.0	34.5	6.8	36.6	34.3	6.3

Source: Eurostat.

Further, a *k*-means cluster analysis was conducted to identify different groups of countries within the Eurozone according to their decrease of the Gini coefficient after social transfers (Table 8), the effectiveness of social transfers in alleviating poverty (Table 7), the mean-tested benefits (Table 9) and total social expenditure (pensions excluded) (Table 7). The number of clusters to detect was specified by the rule of thumb $k \approx \sqrt{19/2} \approx 3$. Table 10 shows the three clusters that were identified along with the means of the above variables for each group. On the basis of the aforementioned means, these clusters can be characterized as very high, medium-to-high, and low performing. The low performing cluster included the countries of Southern (Greece, Italy, Spain, Portugal) and Eastern Europe (Estonia, Latvia, Lithuania, Slovakia). The very high performing cluster comprised solely of Ireland. The medium-to-high performing cluster included all other countries. Similar results were obtained in the study of Watson and Maître (2013).

Table 10 Classification of the eurozone countries according to the decrease of the Gini coefficient after social transfers, the effectiveness of social transfers in alleviating poverty, the mean-tested benefits and total social expenditure (pensions excluded), 2012

Cluster	Decrease of the Gini coefficient	Effectiveness	Means-tested benefits	Total social expenditure
Low performing				
Greece, Italy, Spain, Portugal, Estonia, Latvia, Lithuania, Slovakia	10.1	26.9	9.2	10.7
Medium-to-high performing				
Belgium, Germany, France, Cyprus, Luxembourg, Malta, Netherlands, Austria, Slovenia, Finland	18.7	43.4	14.8	15.9
Very high performing				
Ireland	35.0	60.1	30.4	25.2

Note: Decrease of the Gini coefficient = % decrease after social transfers. Mean-tested benefits = % of total benefits. Total social expenditure = % GDP. The numbers are mean values for each cluster.

6. Well-Being Indicators

Following the UN General Assembly resolution adopted in July 2011, inviting member countries to measure the happiness of their people and to use this to help guide their public policies, happiness is increasingly considered a proper measure of social progress and a goal of public policy (Helliwell, Layard, and Sachs, 2015). According to OECD (2013b), happiness – alternatively, well-being, life satisfaction, or subjective utility (Easterlin, 2003) – encompasses three different aspects: cognitive evaluations of one's life, positive emotions (joy, pride), and negative ones (pain, anger, worry). OECD (2013b) notes that, while these aspects of subjective well-being have different determinants, in all cases these determinants go well beyond people's income and material conditions. World Happiness Reports (Helliwell et al., 2012, 2013, 2015) assess happiness using the "Cantril Ladder", or "Cantril's Ladder of Life Scale", as adopted in the Gallup World Poll (Bjørnskov, 2010): "*Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time?*". Eurostat developed a module on well-being for the 2013 wave of the EU-SILC which measures life satisfaction on an 11-point scale, from 0 ("not satisfied at all") to 10 ("fully satisfied"). Eurostat conceptualized this variable as the respondent's opinion/feeling about the degree of satisfaction with his/her life.

In searching for the determinants of happiness, researchers estimate a regression equation in which they use six key explanatory variables: GDP per capita, social support, healthy life expectancy,

freedom to make life choices, generosity, and freedom from corruption. Taken together, these six variables explain almost three-quarters of the variation in national annual average ladder scores among countries (Helliwell et al., 2015). Economists and policy-makers often present per capita GDP as the principal indicator of well-being. However, a number of thinkers have begun to challenge the dominance of GDP in explaining well-being, as GDP statistics ignore wealth variation, international income flows, household production of services, and other elements which are important determinants of well-being, while, on the other hand, GDP increases when convivial reciprocity is replaced by anonymous market relations and when rising crime, pollution, catastrophes, or health hazards trigger defensive or repair expenditures (Fleurbaey, 2009; Harvie, Slater, Philp, and Wheatley, 2008). Thus, scholars and important institutions such as the OECD, the United Nations Development Programme (UNDP) and the European Union have sought to develop composite indicators as alternatives to GDP, the most famous among them being the Human Development Index (HDI[5]), which combines GDP per capita with two other indicators - literacy or years of schooling and average life expectancy - into a single index (Harvie et al., 2008).

The findings of the 2013 World Happiness Report (Helliwell et al., 2013) revealed that the countries badly hit by the Eurozone financial crisis – Portugal, Italy, Spain and Greece – have suffered significant well-being losses from 2005-2007 to 2010-2012. Among the countries which showed decreases in average happiness over this period, Greece ranks second, Spain sixth, Italy eighth and Portugal twentieth. In the more recent 2015 World Happiness Report for the period 2012-2014 (Helliwell et al., 2015), with almost 1.5 points down from 2005-2007 to 2012-2014 Greece is the biggest happiness loser among 125 countries. Notably, while over the period 2010-2012 Greece was ranked seventieth among 156 countries, having fallen from 2012 to 2014 down to the 102th place among 106 countries. Helliwell et al. (2013) note that Greece stands out from the other countries in having the largest changes in life evaluations, beyond what can be explained by average responses to the economic crisis. They argue that, if trust levels are sufficiently high and the institutional fabric sufficiently strong, then the crisis may even lead to higher subjective well-being, while, should social institutions prove inadequate in the face of the challenges posed by the crisis, they may crumble further under the resulting pressures, making the happiness losses even greater, since social and institutional trust are themselves important supports for subjective well-being.

The argument of Helliwell et al. (2013) is supported by the data in Table 11. There can be seen that Greece is ranked last among all the Eurozone countries with respect to trust in government, freedom of choice, perceived levels of public sector corruption and happiness. Concerning trust in others and social support, Greece occupies the third and second to last position, respectively. The erosion of the social fabric and the perceived quality of the Greek climate of trust appear to be part of the story of the very big happiness losses.

Table 11 Perceptions of Well-Being in the Eurozone

	Having someone to rely on	Trust in others	Trust in government	Freedom of choice	CPI	Happiness
Finland	97.5	58	60	91	89	7.4
Netherlands	93.4	46	57	87	83	7.3
Luxembourg	84.7	26	74	91	80	6.9
Germany	96.1	31	52	90	78	6.7

	Having someone to rely on	Trust in others	Trust in government	Freedom of choice	CPI	Happiness
Belgium	91.8	30	44	82	75	6.9
Ireland	96.9	30	35	90	72	6.9
France	92.3	20	44	83	71	6.5
Austria	96.9	29	38	90	69	7.2
Estonia	95.5	33	27	65	68	5.4
Cyprus	93.7	11	34	69	63	5.6
Portugal	87.7	27	23	73	62	5.1
Spain	95.8	22	34	74	59	6.3
Lithuania	96.4	25	15	46	57	5.8
Slovenia	97.1	15	24	89	57	5.8
Malta	96.5	16	50	82	56	6.3
Latvia	89.3	13	19	51	53	5.0
Slovakia	98.6	21	37	53	47	5.9
Italy	85.7	20	28	55	43	5.9
Greece	86.6	16	13	36	40	4.8

Notes and sources: Having someone to rely on: percentage of the population answering "yes" to the EU-SILC 2013 question about having someone to rely on in case of need; only relatives and friends (or neighbors) who don't live in the same householdare considered. Trust in other people: percentage of respondents answering "can be trusted" to the Gallup World Poll question, "Generally speaking, would you say that most people can be trusted or that you have to be careful in dealing with people?"; data were obtained from the 2014 Human Development and refer to the most recent year available during the period 2009-2011. Trust in government: percentage of respondents answering "yes" to the Gallup World Poll question, "In this country, do you have confidence in the national government?"; Data were obtained from the 2014 Human Development and refer to the most recent year available during the period 2007-2012. Freedom of choice: percentage of respondents answering "satisfied" to the Gallup World Poll question, "In this country, are you satisfied or dissatisfied with your freedom to choose what you do with your life?"; data were obtained from the 2014 Human Development and refer to the most recent year available during the period 2007-2012). HDI: Human Development Index; data were obtained from the 2014 Human Development and refer to year 2013. CPI: Corruption Perceptions Index, which measures the perceived levels of public sector corruption on a scale of 0-100, where 0 means that a country is perceived as highly corrupt and 100 means it is perceived as very clean; data were obtained from the 2013 Corruption Perceptions Index and refer to year 2013. Happiness: average Cantril Ladder score; data were obtained from the 2015 World Happiness Report and refer to the period 2012-2014.

7. Conclusion

The data presented in this paper reveal that six years of economic recession and austerity in Greece have had a significant negative impact on rates of poverty and social exclusion, which have reached historically unprecedented and socially unacceptable high levels. These data show also that Greece is ranked last among all the Eurozone countries with respect to trust in

government, freedom of choice, perceived levels of public sector corruption and happiness, and almost last with respect to trust in others and social support. Our analyses have further revealed that the Welfare State, one of the major functions of which is to redistribute income collected through taxation via social transfers, is the least effective in Greece among all Eurozone countries in alleviating poverty and income inequality.

Several recent papers have attempted to assess how well the social transfers fulfill the role of alleviating poverty (Longford and Nicodemo, 2010). According to Gouveia et al. (2014), the ideal is that, if all social transfers were discarded there would be an appreciable level of poverty, but when the social transfers are regarded as a component of household income, poverty is greatly reduced. The poverty reduction effectiveness of social transfers which has become a topic of intense research and policy attention in recent years, describes how close the current allocation is to this ideal (e.g., Heady, Mitrakos and Tsakloglou, 2001; Longford and Nicodemo, 2010; Watson. and Maître, 2013). Large differences are observed among the countries of the Eurozone in social protection expenditure as a percentage of GDP which, in 2012, was about or above 20% in Ireland (25.2%), Netherlands (19.9%) and France (19%), and below 15% in the countries of Southern and Eastern Europe (pensions excluded from social protection expenditure). Longford and Nicodemo (2010) comment that these differences reflect differences in living standards, but are also indicative of the diversity of the social protection systems and of the demographic, economic, social and institutional structures specific to each country.

Consistent with the results obtained in studies examining the relationship between social protection expenditure and poverty rates (Behrendt, 2002; Gouveia et al., 2014; Nolan et al., 2010), this paper points to a moderate negative correlation between poverty and social protection expenditure in the Eurozone and to a strong positive correlation between poverty reduction effectiveness of social transfers and social protection expenditure. However, significant differences across Member States have been uncovered. Although comparing the poverty reduction effectiveness of social transfers is not easy, because some countries spend more on social protection than others and countries use different instruments (Longford and Nicodemo, 2010), the findings of the present study suggest that the impact of social transfers in alleviating poverty is weakest in the Southern Europe Member States (Greece, Spain, Italy and Portugal). In contrast, more than half of those at risk of poverty in Ireland (60.1%), the Netherlands (51%) and Finland (50.9%) were removed in 2012 from this risk as a result of social transfers. Moreover, our results show that all countries of the European South are quite below the line representing the estimated average relationship between poverty reduction effectiveness and social protection expenditure (Figure 6), suggesting that the poverty gain achieved with social protection expenditure is lower than what should be expected from their level of social transfers or what should be expected for a Eurozone member state. In addition, as there are countries achieving larger gains than expected on the basis of their social protection expenditure, we argue that there is room for effectiveness improvements in social protection policies.

In conclusion, our results indicate that social transfers seem to reduce poverty and inequality in all Eurozone countries, with the reduction being strongly and positively associated to the percentage of GDP spent on social protection, but the impact of transfers seem to be more of a lack of high social protection expenditure in countries with the highest percentage of GDP devoted to social spending.

Watson and Maître (2013) caution what might seem like 'ineffectiveness' with respect to poverty reduction may well be a by-product of designing social transfers to address other goals

such as promoting work, enhancing social involvement or encouraging skills development. In many cases, it will be necessary to balance the goal of increasing poverty reduction efficiency against other aims of policy. However, in view of the fact that the means-tested benefits (pensions excluded) in Greece, as a percentage of total benefits on these functions, is by almost 40% lower than that of the EU-28 and less than one third of that of Ireland, we believe that a more widespread adoption of means-tested allocation of benefits and the implementation of a more targeted and fairer system of social transfers could increase poverty reduction effectiveness.

Notes

1. Eurostat collects data from national statistical institutes. The statistics are harmonized according to Eurore-wide methodologies and therefore the data are genuinely comparable across member states.
2. At risk of poverty or social exclusion refers to the situation of people either at risk of poverty, or severely materially deprived or living in a household with a very low work intensity.
3. Poverty threshold, also called poverty line, is the minimum income level below which a person is officially considered to lack adequate subsistence and to be living in poverty. Absolute thresholds are fixed at a point in time and updated solely for price changes. In contrast, relative thresholds, as commonly defined, are developed by reference to the actual expenditures (or income) of the population. The poverty threshold is usually set at 60 % of the national median equivalized disposable income (after social transfers). The equivalized income is calculated by dividing the total household income by its size determined after applying the following weights: 1.0 to the first adult, 0.5 to each other household members aged 14 or over and 0.3 to each household member aged less than 14 years old.
4. According to EU-SILC, expenditure on social protection includes social benefits, administration costs and other expenditure. Social protection benefits are classified according to eight social protection functions: sickness / healthcare benefits; disability benefits; old age benefits, including old age pensions; survivors' benefits, including a survivors' pensions; family / children benefits; unemployment benefits; housing benefits; social exclusion benefits not elsewhere classified. The at risk of poverty rate before social transfers is calculated using two definitions of income, depending on whether pensions are considered as social transfers or not. Pensions include: old age pensions, anticipated old age pensions, partial pensions, disability pensions, early retirement benefits due to reduced capacity to work, survivors pensions and early retirement benefits for labor market reasons.
5. The HDI is defined (United Nations Development Programme, 2014), as the geometric mean of the three dimensional indices: $HDI = (I_{Health} \times I_{Education} \times I_{Income})^{1/3}$. Each dimensional index is given by: Dimension index =) actual value – minimum value) / (maximum value – minimum value).

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