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Abstract

This paper is a follow-up to Marrero and Rodríguez (2012), who estimated the inequality of opportunity (IO) in Europe in 2005. We use the EU-SILC 2005 and 2011 databases to compare the IO in 23 European countries before and after the Great Recession. The parametric procedure of Ferreira and Gignoux (2011) is used to measure IO. Results show that between 2004 and 2010 both absolute and relative IO increased in Belgium and Slovakia, while decreased in Portugal and Lithuania. In addition, relative IO rose in Austria, Hungary and Greece.

Keywords: Inequality of opportunity, Great Recession, EU-SILC, circumstances, Europe

JEL Classification: D63, E24, O15, O52.

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1. Introduction

The financial crisis in the US that started in 2007 was followed by a global economic crisis, often called the Great Recession (GR). For many countries, the GR was the longest and the deepest economic crisis since the Great Depression of the 1930s. While the US recession in terms of the economic growth ended relatively quickly by the mid-2009, the recovery in many other countries and regions was much slower. In particular, many European countries have been hit by a double-dip recession in the period 2010-2013 as the initial crisis was intensified by a sovereign debt crisis. The scientific concern with the impact of the GR on income distribution arose naturally. Jenkins et al. (2013) have studied the short-term distributional consequences of the GR in 21 rich OECD countries with detailed case studies for Germany, Ireland, Italy, Sweden, the UK and the USA. They found that between 2007 and 2011 changes in income distribution were modest in most of the countries studied: average incomes in general changed very little, income inequality are absolute income poverty fell slightly in European countries (and rose slightly in the USA), while relative income poverty rates typically also fell. However, the authors have also shown that the effect of the GR is different for various subpopulations – while in all six case study countries the elderly were relatively well protected, absolute poverty for children and working age people increased in four out of six compared countries. Moreover, the authors warned that the long-term impact of the GR could be more pronounced.

This paper contributes to the empirical literature on the distributional effects of the GR by focusing on the changes in inequality of opportunity (IO) for income acquisition as measured in 23 European countries before (in 2004) and after (in 2010) the GR. In recent years, the IO concept has become a subject of very intensive theoretical and empirical developments in the economic literature. In contrast to the traditional concept of inequality of outcomes (e.g., incomes, consumption or wealth), IO aims at separating the impact of circumstances and effort on individual outcomes (Roemer 1993, 1998). Circumstances are defined as the factors for which the individual cannot be held responsible (e.g., biological characteristics, socioeconomic background, place of birth, ethnic origin, etc.), while effort refers to variables, which are within the realm of individual's control such as schooling choices, labour supply decisions and others. According to Roemer (1993, 1998), the goal of policy equalizing opportunities is to eliminate unfair inequalities, which result from the impact of circumstances on outcomes, but allowing outcomes to be sensitive to effort.

The GR could have affected IO in Europe in several interrelated ways. Groups of people with identical circumstances (*types* in the language of IO measurement) usually face different risks of unemployment, underemployment or pay cuts. The market incomes of various types could therefore be impacted differently during the crisis. On the other hand, the effect of the state countercyclical policies could be also heterogonous for different types, either through the workings of automatic stabilizers or through discretionary government actions.[1] Overall, one can expect that both the IO level within countries and the ranking of countries with respect to IO could be significantly changed during the GR.

In a recent contribution, Marrero and Rodríguez (2012) have used the 2005 European Union Statistics on Income and Living Conditions (EU-SILC) intergenerational module and the IO measurement methodology proposed by Ferreira and Gignoux (2011) to estimate the IO in 23 European countries in 2004.[2] They found, among others, that IO for income acquisition was low in the Nordic, continental and some Eastern European countries, while high in the Mediterranean, Atlantic, and other Eastern European countries. In this paper, we repeat the exercise of Marrero and Rodríguez (2012) for 2004 and calculate comparable IO indices for 2010 using the 2011 EU-SILC database. This allows us to compare IO in 23 European countries before and after the GR of 2008-2009. Since the intergenerational modules were implemented only in 2005 and 2011 EU-SILC surveys, we are unable to analyse directly how the IO changed over the course of the crisis. However, by comparing the pre-crisis and post-crisis IO estimates we provide some suggestive evidence on how the crisis could change the extent of unfair inequalities in Europe.

2. Methods

Recent economic literature has delivered a number of different methodologies of measuring IO.[3] In order to produce results comparable to those of Marrero and Rodríguez (2012), we

[1] The impact of market changes as well as tax and benefit changes on poverty and inequality during the GR has been recently studied intensively using microsimulation approaches (see, e.g., Callan et al. 2011, Dolls et al. 2011, Figari et al. 2011, Matsaganis and Leventi 2013, Brewer et al. 2013, Avram et al. 2013, Bargain et al. 2013, De Agostini et al. 2014).

[2] Beside a comparison of IO in 23 European countries in 2004, Marrero and Rodríguez (2012) have also measured the correlation between IO and the country degree of development, labour market performance, investment in human capital and social protection spending.

[3] In this section, we provide only a short overview of the IO measurement methodologies. See Roemer and Trannoy (2013), Pignatoro (2012) and Ramos and Van de gaer (2012) for comprehensive reviews of the theory and empirical approaches to IO.

follow them closely in choosing the IO measurement framework proposed by Ferreira and Gignoux (2011). These authors introduced the parametric estimation of IO understood in *ex-ante* terms. In the *ex-ante* approach, inequality of opportunity is measured as inequality between types (that is groups of persons sharing the same circumstances).[4] All differences in individual outcomes that remain after the impact of circumstances has been accounted for are assumed to be due to effort. For this reason, the *ex-ante* approach treats effort in a broad way as comprising all factors affecting individual outcomes other than circumstances including variables such as luck, talent and error in measuring the outcome.

As proposed by Bourguignon *et al*. (2007) and Lefranc *et al*. (2008), practical measuring of *ex-ante* IO could be performed in terms of assessing stochastic dominance between distributions of outcomes conditional on sets of circumstances defining types. However, as observed by Ferreira and Gignoux (2011) the stochastic dominance techniques cannot be used meaningfully when the number the number of circumstances is high and the number of observations within some types is small. In such a setting, rather than comparing complete conditional income distribution one can consider a comparison of mean level of outcome across types.

The approach proposed by Ferreira and Gignoux (2011) can be formalized in the following way. Let the outcome variable be income and consider a population of individuals indexed by $i \in \{1, \ldots, N\}$ with incomes, y_i, being determined by the effort level, e_i, and the set of circumstances, C_i,: $y_i = f(C_i, e_i)$. The population is divided into M mutually exclusive and exhaustive types, $\Gamma = \{H_1, \ldots, H_M\}$, which are groups of individuals sharing the same circumstances. Let the vector of mean incomes for types be defined as $\mu = (\mu^1, \ldots, \mu^M)$. Then, the criterion of equality of opportunity used by Ferreira and Gignoux (2011) can be defined as:

$$\mu^m(y) = \mu^k(y), \forall m, k \mid H_m \in \Gamma, H_k \in \Gamma. \quad (1)$$

Ferreira and Gignoux (2011) propose further to measure IO by applying an inequality index (I) to the vector of mean incomes for all types, $I(\mu)$. On the basis of desirability from the axiomatic point of view, they choose the mean logarithmic deviation (MLD, also known as Theil 0, T_0) as the preferred inequality measure. This index fulfils the most basic postulates proposed in the theoretical literature on inequality such as symmetry, the Pigou-Dalton transfer principle, scale invariance, population replication and additive decomposability. All these properties are satisfied by a positive multiple of a member of the Generalized Entropy (GE)

[4] The *ex-post* approach to conceptualize IO measures inequality among persons who have exerted the same degree of effort, regardless of circumstances. See Fleurbaey and Peragine (2013) for a theoretical analysis of *ex-ante* versus *ex-post* approaches to measuring IO.

class of inequality indices. However, T_0 is the only measure among the GE indices (it is a member of the GE class with its sensitivity parameter set to 0), which satisfies a further requirement of path-independent decomposability (Foster and Shneyerov 2000).

In order to estimate mean incomes for types, Ferreira and Gignoux (2011) introduced a parametric procedure that works well even when the number of circumstances is high and some types are represented in available samples by a small number of observations. The parametric specification uses the fact that circumstances are exogenous by definition, while effort can also be affected by circumstances: $y_i = f(C_i, e_i(C_i))$. A log-linearized version of this equation can be estimated by OLS:

$$lny = C\psi + \varepsilon, \tag{2}$$

where ε is a random term and ψ captures both the direct effect of circumstances on income, and the indirect effect of circumstances through their impact on effort. Using estimates of coefficients ψ, a parametric estimate of the smoothed distribution can be obtained:

$$\tilde{\mu}_i = \exp[\hat{\psi} C_i], \tag{3}$$

where $\tilde{\mu}_i$ is the counterfactual income level for individual i and $\hat{\psi}$ is a vector of parameter estimates from the OLS regression. Obviously, the counterfactual incomes $\tilde{\mu}_i$ will be identical for individuals with the same circumstances. IO can be then measured in absolute terms as the inequality of $\tilde{\mu}_i$, $T_0(\tilde{\mu}_1, \ldots . \tilde{\mu}_N)$, and in relative terms as the share of IO in total income inequality, $T_0(\tilde{\mu}_1, \ldots . \tilde{\mu}_N)/ T_0$.

As stressed by Ferreira and Gignoux (2011), the IO estimates obtained using the described procedure should be considered as lower-bound estimates of the true IO. This is due to the fact that circumstances observed in real-world data sets contain only a sub-set of all possible circumstances some of which are even unobservable.[5]

3. Data

Following Marrero and Rodríguez (2012), we use data from the EU-SILC, which is an annual survey providing comparable data on income distribution and social inclusion in the EU. In 2005 and 2011, the EU-SILC contained additional ad-hoc modules on intergenerational

[5] See Niehues and Peichl (2014) for an attempt to estimate upper bounds of inequality of opportunity using fixed effects models applied to panel data.

transmission of disadvantages.[6] These modules collected extensive information about respondents' socio-economic background, which can be used to measure circumstances in IO empirical applications. For the purpose of comparability, we use a set of circumstance variables similar to that used by Marrero and Rodríguez (2012). In particular, for both the 2005 EU-SILC and the 2011 EU-SILC databases, we use the educational levels of the respondent's parents, a variable describing occupation of the respondent's father and the information about the origin (local, born in the other EU country, or rest of the world) of the respondent.[7] We were unable to include another circumstance variable used by Marrero and Rodríguez (2012), namely the information about the financial situation of the household during the respondent's childhood, as both the survey questions and response scales related to this variable are defined differently for the two data modules considered and the differences cannot be easily reconciled. However, this is a minor problem for two reasons. First, the information on household financial situation during respondent's childhood was already missing for a number of countries (Austria, Germany, Greece, France, Portugal) in the 2005 wave of the survey. Therefore, omitting this variable increases the comparability of IO estimates across countries. Second, the comparison of our empirical results with those of Marrero and Rodríguez (2012) shows that the variable describing financial situation during childhood contributed relatively little to IO – both the values of IO measures and the ranking of countries was rather robust to including this variable.

We apply the same sample selection rules as Marrero and Rodríguez (2012). Our main income variable is yearly equivalized disposable income observed for households whose head is between 26 and 50 years old.[8] We perform the analysis for the set of 23 European countries studied in Marrero and Rodríguez (2012): Austria (AT), Belgium (BE), Czech Republic (CZ),

[6] The 2005 EU-SILC intergenerational module has been used to analyse inequality of opportunity in Europe also by Checchi et al. (2010) and Dunnzlaff et al. (2011). Recently, Andreoli and Fusco (2014) have used 2005 and 2011 EU-SILC intergenerational modules to study the evolution of IO in Europe over time. These authors introduce a new methodology for measuring IO based on comparing the gap curves between distributions of advantages enjoyed by various types. In their empirical analysis, the authors use only one circumstance variable: respondent's father education.

[7] Following Marrero and Rodríguez (2012), for the UK we use information on mother's occupation since the variable describing father's occupation contains significant number of missing values. Parental education was measured on a 6-point scale in 2005 EU-SILC database, while on the 4-point scale in 2011 EU-SILC database. However, these differences can be reconciled by appropriate reassigning of educational categories. In our empirical analysis, we measure parental education on a 3-point scale, which is broadly consistent for both EU-SILC databases.

[8] The equivalence scale used in the standard Eurostat choice of the modified OECD scale. Following Marrero and Rodríguez (2012), we have also removed all observations with negative or zero income as well as incomes 15 times higher than the mean income of their distribution. We use the EU-SILC intergenerational weights in all calculations.

Germany (DE), Denmark (DK), Estonia (EE), Greece (EL), Spain (ES), Finland (FI), France (FR), Hungary (HU), Ireland (IE), Italy (IT), Lithuania (LT), Latvia (LV), the Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Sweden (SE), Slovenia (SI), Slovakia (SK), and the United Kingdom (UK).[9] For most of the countries, the income reference period in the EU-SILC is the calendar year preceding the survey year. Therefore, our estimates of IO based on 2005 and 2011 EU-SILC databases refer actually to IO observed in, respectively, 2004 and 2010.[10] We treat our results for 2004 as the pre-crisis IO estimates, while the results for 2010 as our IO estimates after the GR of 2008-2009.

Descriptive statistics for variables used in our empirical analysis are presented in Table 1 (see Appendix). In most cases, the statistics for the year 2004 correspond rather well to those presented by Marrero and Rodríguez (2012). For many countries, the most striking difference between distributions observed in 2004 and 2010 is a sizable decrease in the proportion of parents with low level of education coupled with increases for medium or/and high levels of parental education.[11] In some cases, especially for the Czech Republic, the differences are so large that they must reflect some kind of measurement error. However, in case of other countries it seems that these differences are simply related to the increasing average levels of human capital in Europe over the second half of the XX century.

4. Empirical analysis and discussion

Figure 1 presents estimates of total income inequality as measured by T_0 in Europe in 2004 and 2010. Countries are sorted in the ascending order of income inequality as measured in 2004.[12] Vertical bars show 95% confidence intervals estimated using the normal approximation with bootstrapped standard errors computed with 2,000 replications. We conduct tests of

[9] Marrero and Rodríguez (2012) omitted Luxembourg, Iceland and Cyprus from the analysis because of the small sample sizes for these countries. The 2011 EU-SILC database delivers also data for some countries that were not included in the 2005 database (Bulgaria, Romania, Switzerland). However, we do not use data for these countries as this paper is mainly interested in comparing the changes in IO in the period before and after the GR. Using 2011 EU-SILC data, Brzezinski (2014) shows that IO, both in absolute and relative terms, is much higher in Bulgaria and Romania than in any other European country.

[10] The exceptions are Ireland (income reference period is the 12 months prior to the interview) and the UK (income reference period is the current year).

[11] Level of parent education is defined as „low", when the parent could neither read or write in any language or the parent had pre-primary, primary or lower secondary education. Medium level of education means upper secondary and post-secondary non-tertiary education. High level of education is defined as tertiary education.

[12] There are some small differences between our ranking of countries in Figure 1 and Marrero and Rodríguez's (2012) ranking (see their Figure 1, p. 612). They may be due to the fact that this paper probably uses a later release of the 2005 EU-SILC data, which revises data errors found in earlier releases.

statistical significance on changes in all inequality indices (both standard inequality measures and IO indices) using a *t*-type statistics with variance estimates obtained using bootstrap.[13]

Figure 1. Total income inequality (T_0) in Europe, 2004 and 2010

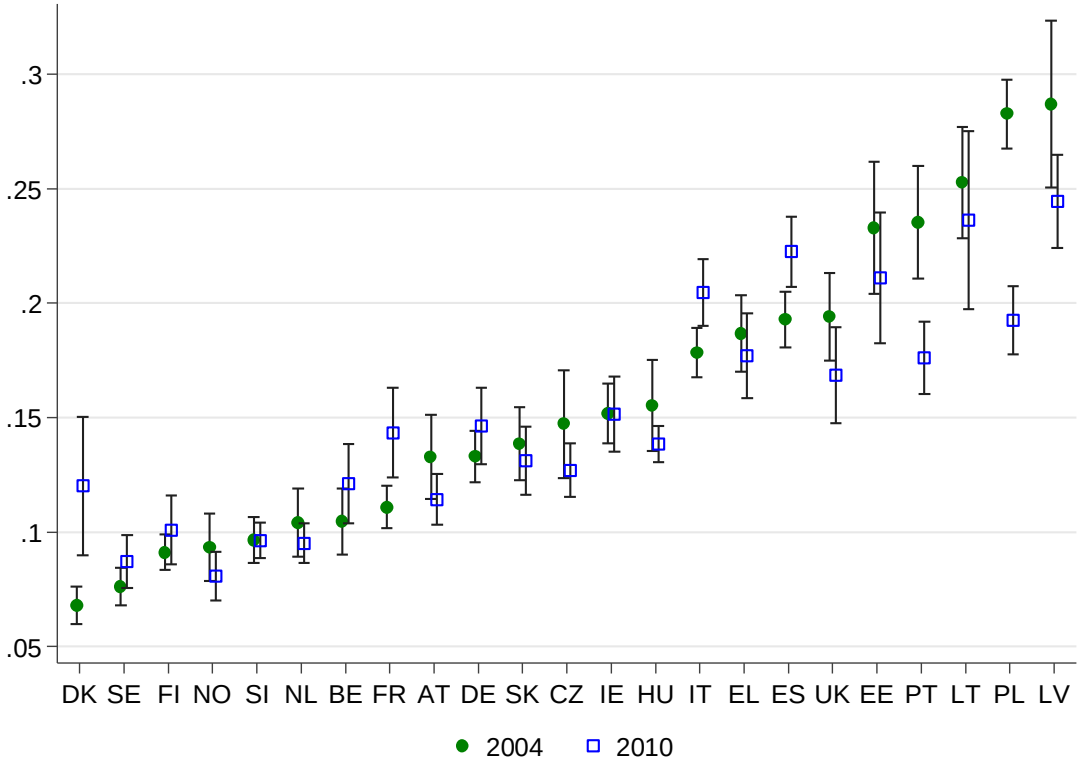


Figure 1 shows that in 2004 European countries could be divided into a low-inequality group and a high-inequality group. The former consisted of the Nordic countries (Denmark, Sweden, Finland, Norway), part of the Western Europe (the Netherlands, Belgium, France, Germany, Ireland) and some Central and Eastern European countries (Slovenia, Austria, Slovakia, Czech Republic and Hungary). The latter included Southern Europe (Italy, Greece, Spain, Portugal), the UK and some other Central and Eastern European countries (the Baltics and Poland).

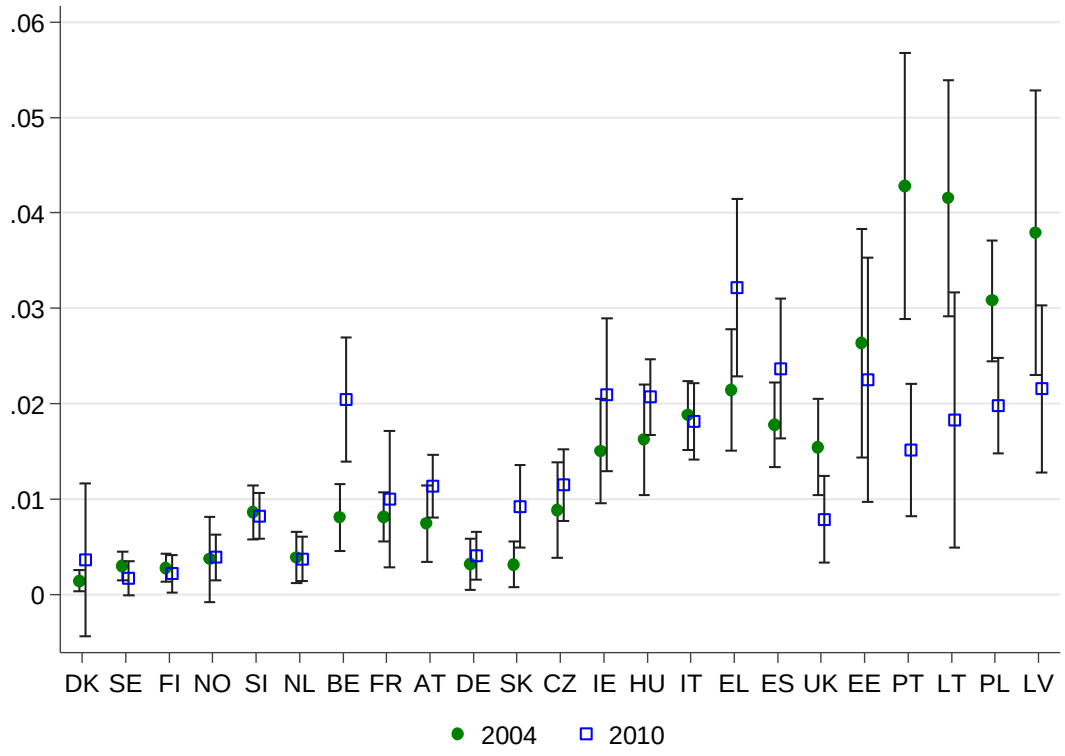
Figure 1 suggests that income inequality measured by T_0 increased over 2004-2010 in Denmark, France, Italy, and Spain, while decreased in Portugal and Poland. These changes are statistically significant judging by non-overlapping confidence intervals for point estimates for 2004 and 2010. As half of the countries with increasing inequality levels belonged

[13] The statistic used for the hypothesis that an inequality index, *I*, has the same value in 2004 and 2010, $I_{2004} = I_{2010}$, is $T = (\hat{I}_{2010} - \hat{I}_{2004})/\left[\hat{V}(\hat{I}_{2010}) + \hat{V}(\hat{I}_{2004})\right]^{1/2}$, where *V* denotes variance of an inequality measure and hats denote estimates of given quantities. Variance estimates are obtained through bootstrapping with 2,000 replications. Critical values are taken from the standard normal distribution.

initially to the low-inequality group, while countries with decreasing inequality levels were high-inequality countries, we observe a movement in the direction of a mild income inequality convergence in Europe between 2004 and 2010.

We now turn to the estimation of IO indices. It is important to remind here that our cross-country and across time comparisons of IO rely on lower-bound estimates, which is due to the partial observability of circumstance variables. If more circumstances were observable, then our country rankings and evaluations of IO changes over time could be different.[14] Table 2 (see Appendix) presents results of estimation of models (2) for the EU-SILC countries in 2004 and 2010. In most of the cases, the coefficients have the expected sign. The estimates of our absolute IO indices together with their 95% confidence intervals are given in Figure 2. Countries are sorted in the same order as in Figure 1. Using a *p*-value based on the *T* statistic (see footnote 13) and the 5% significance level, we can conclude that the absolute IO increased in Belgium (*p*-value = 0.001) and Slovakia (*p*-value = 0.016), while decreased in the UK (*p*-value = 0.029), Portugal, Lithuania (*p*-value = 0.012) and Poland (*p*-value = 0.008). At the 10% significance level, absolute IO increased also in Greece (*p*-value =0.061) and decreased in Latvia (*p*-value = 0.063).

Figure 2. Absolute inequality of opportunity in Europe, 2004 and 2010

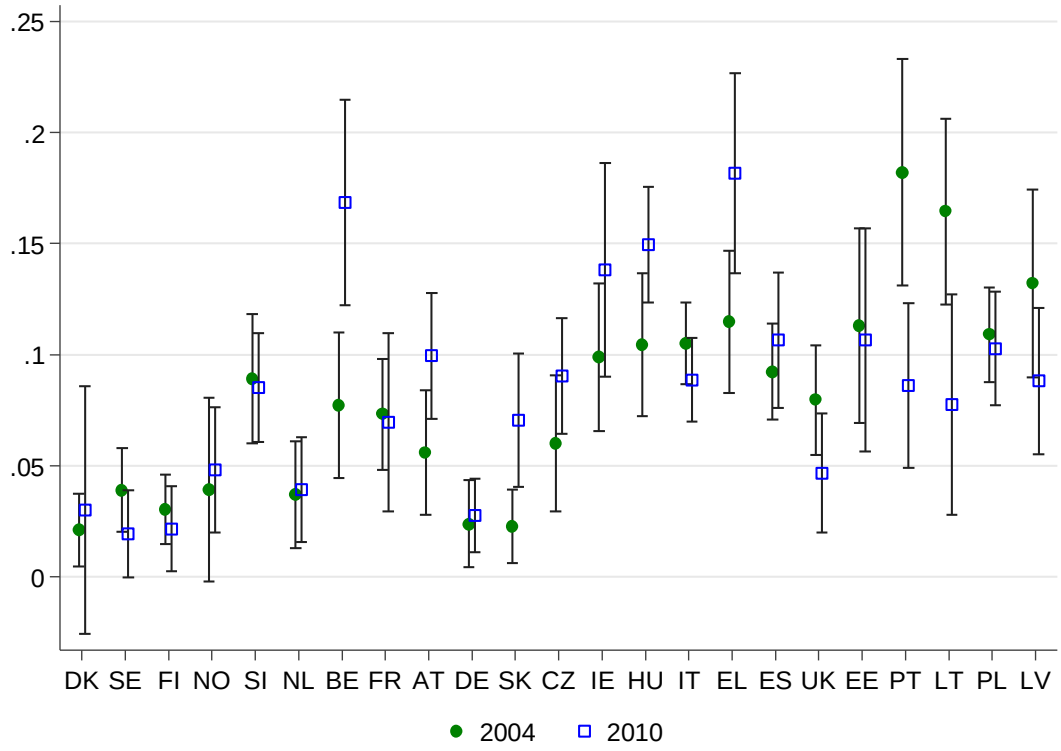


[14] See Kanbur and Wagstaff (2014) for a discussion of this problem in the context of making policy recommendations on the basis of lower-bound IO estimates.

In general, absolute IO was falling in the countries with falling standard income inequality, which belonged to the high-inequality group in 2004. As these countries were also characterized by high absolute IO in 2004, they registered significant progress in reducing absolute IO over 2004-2100.

Figure 3 presents results for the relative IO measure. The share of unfair inequality in total income inequality increased in Belgium (p-value = 0.002), Austria (p-value = 0.032), Slovakia (p-value = 0.006), Hungary (p-value = 0.033) and Greece (p-value = 0.017). This group of countries is rather heterogonous with respect to the severity of the impact of the crisis. It includes countries hit by the GR in a relatively mild way (Austria, Belgium, Slovakia), but also a country affected more significantly (Hungary) and a country hit very strongly (Greece).

Figure 3. Relative inequality of opportunity in Europe, 2004 and 2010



Statistically significant reductions of the relative IO occurred in Portugal (p-value = 0.003) and Lithuania (p-value =0.009). For these two countries, falling relative IO is associated with falling absolute IO.

In order to identify the types (i.e. groups of individuals sharing the same circumstances), which suffered the greatest losses in the period before and after the GR we can estimate the so-called opportunity-deprivation profiles. As defined by Ferreira and Gignoux (2011), an

opportunity-deprivation profile is a ranking of types ordered by their mean income levels, up to some chosen population share threshold (e.g. 10%). By comparing changes in the opportunity-deprivation profile, we can provide insights for equal opportunity policies that would target those groups that saw their opportunities declining the most during the GR. Table 1 provides opportunity-deprivation profiles for Belgium – a country that, according to our analysis, experienced the most significant increases in both absolute and relative IO. For simplicity, the profiles presented in Table 1 assume a slightly coarser definition of the type compared to that used in our previous analysis. Instead of using information on four circumstances – mother's and father's education, father's occupation, country of birth – we now define types according only to the father's occupation and respondent's country of birth. Table 1 provides estimates of the population share of each type and of the ratio of the type's mean income to the overall population mean income. The profiles are computed independently for 2004 and 2010 – for each year we show a list of all types ranked by the lowest relative mean income, whose cumulated population share reaches 10%.

Table 1. Opportunity-deprivation profiles for Belgium, 2004 and 2010

2004				2010			
Father's occupation	Country of birth	Population share	Share of overall mean income	Father's occupation	Country of birth	Population share	Share of overall mean income
Elementary	Others	0.013	0.485	Craft trade	Others	0.014	0.463
Craft trade	Others	0.013	0.570	Elementary	Other EU	0.002	0.465
Clerk	Others	0.003	0.619	Elementary	Others	0.005	0.467
Machine operator	Others	0.007	0.669	Skill agricultural	Others	0.011	0.485
Skill agricultural	Others	0.004	0.695	Machine operator	Others	0.014	0.535
Professional	Others	0.007	0.749	Technician	Others	0.010	0.584
Technician	Others	0.006	0.812	Salesman	Others	0.009	0.603
Elementary	Other EU	0.005	0.814	Manager	Others	0.003	0.624
Machine operator	Other EU	0.005	0.824	Machine operator	Other EU	0.007	0.652
Skill agricultural	Other EU	0.005	0.898	Professional	Others	0.019	0.878
Elementary	Local	0.104	0.911	Skill agricultural	Local	0.037	0.902

Source: own computation using the EU-SILC data.

The most striking feature of Table 1 is the significance of being an immigrant for opportunity-deprivation in Belgium. For each year, Belgians belonging to 10 out of 11 most underprivileged types were born either in another EU country or in a non-EU country. It is also clear that the relative position of most of types considered in Table 1 has worsened significantly over 2004-2010. For example, Belgians who were born in the other EU country and whose father worked in an elementary occupation have seen their incomes dropping on average from 81% of the national mean income to as little as 47% of it. Other types that experienced significant deterioration in their relative position include those defined by being born outside the

EU and having a father who worked as a machine operator, skilled agricultural worker, technician, salesman and manager.[15] These results suggest that several immigrant groups have suffered from sizable increases in opportunity deprivation and that they should be targeted by equal-opportunity policy in Belgium.

5. Conclusions

In this paper, we have used the EU-SILC 2005 and 2011 databases to compare the inequality of opportunity (IO) in 23 European countries before and after the Great Recession (GR). Our results show that between 2004 and 2010 both absolute and relative IO increased in Belgium and Slovakia. The relative IO rose also in Austria, Hungary and Greece. On the other hand, both absolute and relative IO decreased in Portugal and Lithuania, while absolute IO did so also in the UK and Poland. For a country that experienced the most significant increase in IO, Belgium, we have computed opportunity-deprivation profiles, which allow to identify the worst-off types that should be the focus of policies directed at reducing unfair inequality. We have found that in Belgium the worst-off types both before and after the GR were composed mainly of immigrants and that the relative position of many of these types deteriorated significantly between 2004 and 2010.

There are important caveats associated with our analysis. First, as stressed above, our cross-country and across time comparisons are based on lower-bound IO estimates, which are computed for a limited number of observable circumstances. However, if a greater number of circumstances were observable our conclusions about the changes in IO could be different, both with respect to statistical and economic significance. Second, in absence of longitudinal or annual cross-sectional intergenerational data, harmonized across European countries, we were able to estimate IO indices at only two points in time – a few years before the outbreak of the GR (in 2004) and after the first wave of the European crisis (in 2010). For this reason, we do not provide a year-by-year analysis of the impact of the GR on IO in Europe. In addition, our analysis does not cover the period of the follow-up European recessions between 2010 and 2013. The overall impact of these perturbations on IO in the long run could be much greater than that estimated in the present paper. This issue should be investigated in future

[15] The relative incomes (ratio of mean type's income to the overall population mean income) of these two last types (not shown in Table 1) were 0.958 (for salesman) and 0.975 (for manager) in 2004.

studies, possibly using also national data sources that provide intergenerational information on a more frequent basis than the EU-SILC.

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Appendix. For possible publication online as supplementary material.

Table 1. Descriptive statistics of the EU-SILC database, 2005 and 2011.

	AT		BE		CZ		DE		DK		EE		EL	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Sample size	1,514	2,517	1,842	1,948	1,589	2,867	4,665	3,916	2,096	1,504	1,358	1,471	2,120	1,519
Equivalized personal income														
Mean	19,796	23,994	19,831	23,613	5,080	8,949	20,266	22,859	24,542	30,292	4,104	7,787	12,105	13,595
Standard deviation	10,591	12,892	10,315	12,983	3,530	5,147	12,557	13,733	9,020	16,798	3,084	5,153	8,186	8,363
Father's education														
Low	55.4	34.4	59.3	48.9	14.3	62.7	12.0	7.9	37.0	27.8	42.0	33.3	84.3	74.5
Medium	40.8	49.0	22.2	26.8	75.7	26.1	52.3	58.0	44.5	46.1	42.2	46.6	9.2	15.1
High	3.8	16.6	18.5	24.3	10.0	11.2	35.7	34.1	18.5	26.1	15.8	20.1	6.5	10.4
Mother's education														
Low	71.5	51.4	66.2	54.9	31.2	62.2	31.8	21.5	56.5	44.4	43.5	29.2	88.9	78.5
Medium	25.2	42.8	21.5	25.7	63.7	32.1	55.6	65.2	28.2	33.2	40.0	46.6	7.7	15.7
High	3.4	5.8	12.3	19.4	5.1	5.7	12.6	13.3	15.3	22.5	16.5	24.2	3.4	5.7
Father's occupation														
Manager	4.8	4.8	10.6	7.7	4.7	3.9	6.8	5.7	9.0	12.6	10.3	9.8	11.1	7.7
Professional	3.0	6.1	11.8	18.5	6.5	7.4	16.4	16.6	13.4	15.2	8.4	10.1	4.3	6.1
Technician	11.8	8.6	7.8	11.7	15.2	15.1	12.0	18.8	10.5	8.6	4.5	6.2	2.4	2.8
Clerk	6.2	7.0	9.9	10.8	3.3	3.7	7.8	6.1	5.1	4.5	0.8	1.4	5.3	9.9
Salesman	11.4	16.4	5.9	6.1	3.5	4.0	3.1	6.5	5.2	11.4	0.9	0.8	5.4	4.9
Skill agricultural	12.4	12.8	4.5	5.2	4.7	3.7	5.6	4.0	12.8	12.9	2.9	4.4	34.8	30.6
Craft trade	27.5	29.4	24.7	22.8	36.3	34.3	30.9	27.5	22.6	28.1	29.1	26.8	18.4	20.3
Machine operator	7.6	6.7	9.8	13.6	17.5	21.7	11.1	12.2	8.4	5.8	31.3	34.2	7.6	11.4
Elementary occupation	15.3	7.6	12.6	3.7	6.9	4.7	5.0	2.7	12.0	0.8	10.0	5.6	9.5	4.5
Armed/military	0.1	0.8	2.4	0.0	1.4	1.4	1.1	0.0	0.8	0.0	1.8	0.8	1.0	1.8
Country of birth														
Local	87.9	85.1	88.2	83.5	97.1	96.5	96.2	95.7	97.1	93.0	88.2	91.9	90.5	87.4
Other EU	2.7	5.9	5.1	6.8	2.1	2.5	0.0	0.0	0.7	2.1	0.0	0.0	2.4	2.5
Others	9.4	9.0	6.7	9.7	0.8	1.0	3.8	4.3	2.2	4.9	11.8	8.1	7.1	10.1

Table 1 continued on next page

Table 1. (*continued*)

	ES		FI		FR		HU		IE		IT		LT	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Sample size	5,376	4,857	2,838	1,551	3,884	3,906	2,387	4,065	2,098	1,468	8,338	6,536	1,595	1,369
Equivalized personal income														
Mean	13,677	15,106	20,803	26,616	18,608	23,125	3,951	5,383	23,533	25,529	17,046	18,392	2,844	4,730
Standard deviation	8,830	9,346	10,173	14,714	10,045	15,514	2,778	3,113	14,202	14,666	11,184	11,548	2,160	3,268
Father's education														
Low	84.3	83.2	59.8	46.8	65.6	76.0	44.6	59.9	79.8	54.2	83.6	75.5	63.0	58.6
Medium	6.4	7.0	19.9	30.0	24.1	9.9	46.1	28.5	11.0	29.1	12.7	19.1	27.2	30.0
High	9.4	9.8	20.3	23.2	10.3	14.1	9.3	11.6	9.2	16.8	3.7	5.4	9.8	11.4
Mother's education														
Low	91.7	89.4	61.2	44.0	74.3	77.6	59.2	62.8	77.6	48.3	89.5	81.7	63.4	49.2
Medium	4.1	5.8	24.3	32.1	18.4	11.1	35.5	29.5	15.0	36.9	9.1	15.2	27.7	37.7
High	4.2	4.8	14.5	23.9	7.3	11.3	5.3	7.7	7.4	14.8	1.4	3.1	8.9	13.1
Father's occupation														
Manager	6.3	6.4	10.3	5.2	8.9	10.1	5.9	4.0	24.9	14.7	9.5	7.4	5.5	6.5
Professional	3.8	5.3	6.7	14.0	9.9	9.5	6.4	8.1	8.3	11.6	3.7	5.9	7.5	9.2
Technician	4.6	8.7	12.6	12.8	8.2	13.5	4.9	5.7	2.9	5.8	7.5	10.2	3.6	3.1
Clerk	5.3	6.0	1.9	1.8	5.1	7.9	3.0	2.1	6.1	2.9	5.7	7.3	2.2	2.1
Salesman	7.5	10.0	4.1	6.6	3.1	4.5	3.3	5.1	5.3	8.2	4.6	7.9	1.9	4.2
Skill agricultural	14.1	13.4	22.7	17.0	12.0	9.4	10.0	7.8	1.4	14.1	12.3	9.2	6.3	8.0
Craft trade	24.6	21.1	21.5	19.8	23.9	15.9	36.4	31.4	19.4	17.9	27.5	26.6	24.9	26.2
Machine operator	11.5	13.0	15.8	17.3	18.6	5.8	16.5	21.6	11.5	7.0	14.2	12.3	24.7	21.0
Elementary occupation	20.4	14.8	3.5	4.4	7.4	21.7	11.9	12.8	18.2	15.6	12.9	12.0	22.7	18.7
Armed/military	1.9	1.3	0.9	1.3	3.0	1.5	1.8	1.4	2.1	2.3	2.0	1.3	0.8	1.0
Country of birth														
Local	93.3	88.5	98.0	94.5	88.3	91.7	97.3	98.9	87.0	75.7	93.0	90.0	93.7	95.9
Other EU	1.5	3.4	1.1	2.4	3.2	2.3	0.4	0.8	9.3	16.8	1.4	3.5	0.6	0.5
Others	5.2	8.1	0.9	3.1	8.5	6.0	2.4	0.3	3.7	7.5	5.6	6.5	5.7	3.6

Table 1 continued on next page

Table 1. (*continued*)

	LV		NL		NO		PL		PT		SE		SI	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Sample size	1,133	1,682	1,886	2,852	2,226	1,783	6,576	4,387	1,466	1,684	2,234	1,634	2,034	2,456
Equivalized personal income														
Mean	3,181	5,683	19,986	24,269	29,400	40,708	3,295	6,455	9,950	10,484	19,616	24,954	10,035	13,451
Standard deviation	2,867	4,050	9,518	11,434	13,150	17,197	2,799	4,566	8,253	6,733	8,323	10,170	4,581	6,034
Father's education														
Low	49.5	42.1	58.2	36.6	29.3	24.7	51.5	40.4	92.8	92.9	70.4	36.5	51.3	66.6
Medium	37.4	44.1	20.7	36.1	45.7	39.5	42.5	51.5	3.1	3.0	13.3	40.9	44.3	20.6
High	13.1	13.8	21.1	27.3	25.0	35.8	56.0	8.2	4.1	4.1	16.3	22.6	4.4	12.8
Mother's education														
Low	47.7	35.0	75.8	48.3	34.7	27.3	58.5	45.2	95.0	93.4	72.0	31.6	66.0	70.1
Medium	40.3	48.3	15.6	38.2	34.7	46.8	37.2	47.8	1.5	2.7	14.9	40.6	32.1	20.4
High	12.0	16.7	8.6	13.5	30.6	25.9	4.3	7.0	3.5	3.9	13.1	27.8	1.9	9.5
Father's occupation														
Manager	6.7	4.5	24.2	11.2	12.9	13.4	3.4	4.7	7.2	5.6	6.4	4.9	4.3	3.3
Professional	9.1	11.4	12.3	18.5	9.5	14.0	4.6	5.5	2.7	4.1	11.9	19.0	5.2	9.2
Technician	5.8	5.4	14.6	18.4	18.1	19.3	6.2	5.9	4.3	6.7	11.7	8.9	9.5	12.7
Clerk	1.6	0.9	7.2	5.8	3.9	3.1	3.0	2.4	4.6	3.7	6.2	2.9	5.2	4.7
Salesman	1.9	2.8	3.9	7.0	5.0	5.5	2.1	4.6	5.5	9.7	6.6	11.5	5.5	6.3
Skill agricultural	2.6	6.9	1.7	7.8	10.5	8.6	26.3	22.7	24.3	20.9	7.4	7.8	14.3	7.2
Craft trade	28.6	27.5	20.7	20.4	24.0	21.8	28.1	27.3	28.5	28.6	31.9	27.0	26.2	28.6
Machine operator	28.2	29.9	9.4	6.8	14.0	9.3	16.6	17.7	9.9	11.9	14.9	14.4	22.7	9.8
Elementary occupation	13.9	8.7	4.3	2.6	1.0	2.9	8.1	8.4	11.6	8.7	1.0	2.3	6.3	17.8
Armed/military	1.6	2.0	1.6	1.7	1.0	1.9	1.5	1.0	1.3	0.0	2.0	1.4	0.8	0.4
Country of birth														
Local	85.4	90.5	95.2	94.6	92.7	91.6	99.8	99.9	97.2	90.3	87.3	93.4	89.8	89.6
Other EU	0.0	0.0	1.2	1.5	3.4	4.0	0.0	0.0	1.0	2.3	4.7	2.3	0.0	0.0
Others	14.6	9.5	3.6	3.9	3.9	4.3	0.2	0.1	1.8	7.4	8.0	4.3	10.2	10.4

Table 1 continued on next page

Table 1. (*continued*)

	SK		UK	
	2005	2011	2005	2011
Sample size	2,102	1,847	2,044	1,556
Equivalized personal income				
Mean	3,147	7,023	26,886	23,341
Standard deviation	2,022	3,537	18,983	16,008
Father's education				
Low	34.5	31.0	59.8	51.7
Medium	55.9	59.0	22.5	28.9
High	9.6	10.0	17.8	19.4
Mother's education				
Low	49.0	37.7	76.0	65.4
Medium	46.8	57.4	10.1	13.6
High	4.2	4.9	13.9	21.0
Father's occupation				
Manager	8.4	4.7	5.5	11.9
Professional	6.9	7.4	10.3	17.9
Technician	10.7	11.8	10.0	10.1
Clerk	3.2	2.5	20.9	3.9
Salesman	3.1	4.8	23.5	8.4
Skill agricultural	2.9	2.6	0.4	2.9
Craft trade	26.2	32.5	1.6	25.1
Machine operator	21.7	23.2	9.1	12.1
Elementary occupation	16.9	9.6	18.7	6.3
Armed/military	0.0	0.9	0.0	1.4
Country of birth				
Local	98.4	98.8	88.9	88.8
Other EU	1.3	1.0	0.5	4.6
Others	0.3	0.2	10.6	6.6

Notes: see the main text for the description of sample selection rules. Equivalized personal incomes are yearly incomes expressed in Euros. Income variables from 2005 and 2011 EU-SILC databases refer to incomes received in, respectively, 2004 and 2010. Country codes: AT, Austria; BE, Belgium; CZ, Czech Republic; DE, Germany; DK, Denmark; EE, Estonia; EL, Greece; ES, Spain; FI, Finland; FR, France; HU, Hungary; IE, Ireland; IT, Italy; LT, Lithuania; LV, Latvia; NL, The Netherlands; NO, Norway; PL, Poland; PT, Portugal; SE, Sweden; SI, Slovenia; SK, Slovakia; UK, United Kingdom.

Table 2. Reduced-form OLS regressions of equivalized personal income on circumstances, EU-SILC database, 2005 and 2011.

	AT		BE		CZ		DE		DK		EE		EL	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Medium education (F)	0.004	-0.001	0.034	0.056*	0.054	0.089***	0.107***	0.103***	0.003	0.067*	0.103**	0.019	0.136**	0.169***
	(0.046)	(0.026)	(0.030)	(0.030)	(0.044)	(0.029)	(0.027)	(0.036)	(0.025)	(0.036)	(0.048)	(0.050)	(0.053)	(0.049)
High education (F)	0.111	0.047	0.070*	0.137***	0.134*	0.071	0.079**	0.173***	-0.044	0.086	0.165**	-0.036	0.139*	0.197***
	(0.177)	(0.036)	(0.042)	(0.042)	(0.074)	(0.046)	(0.031)	(0.041)	(0.037)	(0.053)	(0.078)	(0.070)	(0.081)	(0.073)
Medium education (M)	0.078**	0.070***	0.027	0.132***	0.083***	0.136***	-0.005	0.016	0.005	0.078**	0.148***	0.185***	0.166***	0.069
	(0.036)	(0.023)	(0.030)	(0.029)	(0.032)	(0.022)	(0.019)	(0.025)	(0.021)	(0.035)	(0.047)	(0.051)	(0.058)	(0.049)
High education (M)	0.092	0.181***	0.106***	0.063*	0.092	0.273***	-0.057**	-0.027	-0.075***	0.001	0.257***	0.347***	0.305***	0.192***
	(0.078)	(0.049)	(0.040)	(0.036)	(0.068)	(0.044)	(0.028)	(0.037)	(0.028)	(0.041)	(0.061)	(0.061)	(0.087)	(0.074)
Manager (F)	-0.011	0.127**	0.030	0.028	0.119	0.030	0.012	0.115*	0.078*	0.027	0.371***	0.144	0.301***	0.183***
	(0.089)	(0.054)	(0.064)	(0.067)	(0.085)	(0.070)	(0.045)	(0.064)	(0.041)	(0.058)	(0.132)	(0.111)	(0.047)	(0.066)
Professional (F)	-0.195	0.018	-0.041	0.035	0.081	0.144**	0.020	0.053	0.102**	0.041	0.393***	0.143	0.096	0.307***
	(0.197)	(0.055)	(0.067)	(0.064)	(0.089)	(0.066)	(0.041)	(0.058)	(0.046)	(0.065)	(0.139)	(0.113)	(0.087)	(0.087)
Technician (F)	0.102	0.111**	-0.067	0.069	0.059	0.115**	-0.046	0.014	0.061	-0.081	0.351**	0.064	0.365***	0.085
	(0.072)	(0.045)	(0.066)	(0.061)	(0.069)	(0.056)	(0.041)	(0.054)	(0.040)	(0.061)	(0.146)	(0.117)	(0.084)	(0.090)
Clerk (F)	0.055	0.097**	-0.037	0.085	0.201**	0.077	-0.022	0.131**	0.054	-0.052	0.389	-0.447***	0.112*	0.176***
	(0.082)	(0.048)	(0.064)	(0.062)	(0.097)	(0.069)	(0.043)	(0.063)	(0.047)	(0.077)	(0.249)	(0.156)	(0.063)	(0.059)
Salesman (F)	-0.060	0.047	-0.030	-0.042	-0.017	0.087	0.032	0.047	0.053	0.063	0.457**	0.142	0.049	0.242***
	(0.062)	(0.037)	(0.068)	(0.068)	(0.092)	(0.066)	(0.054)	(0.061)	(0.048)	(0.059)	(0.224)	(0.200)	(0.060)	(0.074)
Craft trade worker (F)	-0.049	0.007	-0.078	0.043	-0.054	0.039	-0.065*	-0.011	0.007	0.048	0.211*	-0.086	0.069*	0.069
	(0.055)	(0.033)	(0.056)	(0.055)	(0.063)	(0.050)	(0.036)	(0.052)	(0.034)	(0.046)	(0.121)	(0.101)	(0.039)	(0.045)
Machine operator (F)	-0.077	-0.002	-0.070	0.016	-0.064	-0.007	-0.106***	-0.061	-0.026	0.046	0.135	-0.093	0.122**	0.011
	(0.070)	(0.045)	(0.062)	(0.057)	(0.065)	(0.051)	(0.041)	(0.055)	(0.037)	(0.067)	(0.122)	(0.100)	(0.052)	(0.056)
Elementary occupation (F)	-0.074	-0.078*	-0.149**	-0.019	-0.189**	-0.059	-0.041	0.079	-0.002	0.351*	0.129	-0.414***	0.037	-0.095
	(0.058)	(0.043)	(0.060)	(0.075)	(0.077)	(0.064)	(0.048)	(0.072)	(0.034)	(0.185)	(0.134)	(0.130)	(0.051)	(0.077)
Armed/military (F)	-0.654	-0.265***	-0.019		0.322**	0.135	-0.097		0.189*		0.203	-0.362*	0.102	0.228**
	(0.613)	(0.102)	(0.088)		(0.132)	(0.090)	(0.076)		(0.103)		(0.178)	(0.203)	(0.126)	(0.108)
Other EU	0.009	-0.184***	0.027	-0.012	0.155*	-0.158***			0.186*	-0.134			0.067	-0.028
	(0.089)	(0.037)	(0.048)	(0.045)	(0.093)	(0.057)			(0.103)	(0.092)			(0.083)	(0.089)
Others	-0.279***	-0.325***	-0.389***	-0.623***	-0.355***	0.115	-0.194***	-0.150***	-0.194***	-0.158**	-0.175***	-0.124**	-0.449***	-0.476***
	(0.048)	(0.030)	(0.042)	(0.039)	(0.130)	(0.078)	(0.030)	(0.036)	(0.052)	(0.064)	(0.054)	(0.061)	(0.051)	(0.050)
Constant	9.788***	9.954***	9.832***	9.876***	8.287***	8.832***	9.763***	9.761***	10.029***	10.105***	7.679***	8.606***	9.111***	9.216***
	(0.045)	(0.028)	(0.052)	(0.050)	(0.063)	(0.048)	(0.038)	(0.056)	(0.025)	(0.042)	(0.117)	(0.101)	(0.024)	(0.032)
Observations	1,514	2,517	1,842	1,948	1,589	2,867	4,665	3,916	2,096	1,504	1,358	1,471	2,120	1,519
R-squared	0.05	0.10	0.08	0.17	0.06	0.09	0.02	0.02	0.02	0.03	0.10	0.09	0.10	0.16

Table 2 continued on next page

Table 2. (*continued*)

	ES		FI		FR		HU		IE		IT		LT	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Medium education (F)	0.097**	0.101**	0.004	0.051*	0.060***	0.057*	0.117***	0.031	0.112**	0.090**	0.182***	0.125***	0.072	0.165***
	(0.040)	(0.043)	(0.022)	(0.029)	(0.019)	(0.031)	(0.030)	(0.022)	(0.044)	(0.037)	(0.025)	(0.029)	(0.052)	(0.056)
High education (F)	0.211***	0.038	0.056*	0.062	0.111***	0.066*	0.217***	0.178***	0.168***	0.070	0.322***	0.117*	0.214**	0.171*
	(0.042)	(0.051)	(0.031)	(0.042)	(0.034)	(0.034)	(0.066)	(0.043)	(0.062)	(0.057)	(0.047)	(0.060)	(0.091)	(0.100)
Medium education (M)	0.157***	0.135***	0.001	-0.012	0.051**	-0.012	0.104***	0.156***	0.219***	-0.014	0.154***	0.149***	0.219***	0.069
	(0.045)	(0.048)	(0.020)	(0.028)	(0.020)	(0.030)	(0.029)	(0.021)	(0.041)	(0.034)	(0.027)	(0.031)	(0.050)	(0.055)
High education (M)	0.138***	0.206***	0.052*	-0.065*	0.054*	0.041	0.179***	0.251***	0.142**	0.061	0.184***	0.148**	0.332***	0.306***
	(0.048)	(0.053)	(0.027)	(0.035)	(0.033)	(0.032)	(0.057)	(0.036)	(0.058)	(0.050)	(0.060)	(0.062)	(0.082)	(0.082)
Manager (F)	0.278***	0.226***	0.125***	0.050	0.199***	0.021	0.325***	0.260***	0.164	0.217***	0.180***	0.130***	0.427***	-0.047
	(0.045)	(0.056)	(0.038)	(0.058)	(0.033)	(0.041)	(0.064)	(0.052)	(0.103)	(0.056)	(0.030)	(0.048)	(0.111)	(0.122)
Professional (F)	0.160**	0.337***	0.091**	0.089*	0.117***	0.145***	0.140*	0.259***	0.225*	0.274***	0.147***	0.182***	0.335***	-0.070
	(0.064)	(0.068)	(0.042)	(0.052)	(0.038)	(0.048)	(0.079)	(0.053)	(0.115)	(0.065)	(0.050)	(0.060)	(0.104)	(0.116)
Technician (F)	0.356***	0.255***	0.054*	0.094*	0.167***	0.115***	0.229***	0.229***	0.161	0.143**	0.167***	0.160***	0.625***	0.091
	(0.048)	(0.047)	(0.032)	(0.048)	(0.034)	(0.038)	(0.064)	(0.045)	(0.124)	(0.070)	(0.034)	(0.044)	(0.119)	(0.141)
Clerk (F)	0.385***	0.227***	0.021	0.155*	0.095**	0.137***	0.221***	0.287***	0.155	0.072	0.155***	0.146***	0.619***	0.088
	(0.046)	(0.053)	(0.058)	(0.081)	(0.038)	(0.043)	(0.072)	(0.061)	(0.112)	(0.093)	(0.035)	(0.046)	(0.142)	(0.166)
Salesman (F)	0.212***	0.177***	0.033	-0.024	0.020	-0.013	0.158**	0.176***	0.194*	-0.150**	0.115***	-0.018	0.582***	-0.016
	(0.040)	(0.045)	(0.043)	(0.057)	(0.046)	(0.049)	(0.071)	(0.044)	(0.113)	(0.061)	(0.037)	(0.045)	(0.134)	(0.127)
Craft trade worker (F)	0.162***	0.093**	0.017	0.055	0.033	0.030	0.086**	0.202***	0.104	-0.032	0.083***	0.010	0.188**	-0.065
	(0.031)	(0.038)	(0.025)	(0.041)	(0.026)	(0.036)	(0.043)	(0.032)	(0.103)	(0.050)	(0.024)	(0.035)	(0.082)	(0.084)
Machine operator (F)	0.275***	0.122***	0.048*	0.050	0.014	-0.066	0.070	0.137***	0.146	-0.177***	0.121***	-0.002	0.164**	-0.124
	(0.036)	(0.042)	(0.027)	(0.042)	(0.027)	(0.045)	(0.045)	(0.032)	(0.106)	(0.064)	(0.027)	(0.040)	(0.082)	(0.087)
Elementary occupation (F)	-0.002	-0.029	-0.052	0.006	-0.011	-0.096***	0.037	-0.047	-0.045	-0.198***	-0.126***	-0.109***	0.133	-0.045
	(0.032)	(0.042)	(0.044)	(0.062)	(0.033)	(0.035)	(0.048)	(0.035)	(0.104)	(0.053)	(0.027)	(0.040)	(0.082)	(0.090)
Armed/military (F)	0.159**	0.105	0.179**	0.155	0.099**	0.260***	0.201**	0.216***	0.132	-0.128	0.314***	-0.085	0.193	-0.600**
	(0.070)	(0.098)	(0.082)	(0.107)	(0.048)	(0.074)	(0.092)	(0.073)	(0.129)	(0.104)	(0.052)	(0.087)	(0.231)	(0.239)
Other EU	-0.028	-0.296***	-0.048	-0.095	-0.047	-0.320***	0.251*	0.215***	-0.037	-0.161***	-0.114*	-0.292***	-0.040	0.215
	(0.067)	(0.048)	(0.076)	(0.075)	(0.039)	(0.055)	(0.152)	(0.080)	(0.040)	(0.040)	(0.063)	(0.042)	(0.285)	(0.263)
Others	-0.323***	-0.494***	-0.280***	-0.246***	-0.287***	-0.325***	-0.090	-0.626***	-0.192***	-0.277***	-0.268***	-0.302***	0.013	-0.286***
	(0.039)	(0.033)	(0.087)	(0.066)	(0.026)	(0.036)	(0.071)	(0.143)	(0.061)	(0.051)	(0.024)	(0.032)	(0.079)	(0.109)
Constant	9.153***	9.324***	9.794***	10.034***	9.648***	9.889***	7.894***	8.200***	9.739***	9.994***	9.457***	9.567***	7.321***	8.146***
	(0.025)	(0.031)	(0.019)	(0.033)	(0.021)	(0.029)	(0.036)	(0.028)	(0.100)	(0.040)	(0.020)	(0.031)	(0.073)	(0.076)
Observations	5,376	4,857	2,838	1,551	3,884	3,906	2,387	4,065	2,098	1,468	8,338	6,536	1,595	1,369
R-squared	0.08	0.08	0.03	0.02	0.08	0.07	0.10	0.15	0.09	0.12	0.09	0.06	0.14	0.06

Table 2 continued on next page

Table 2. (*continued*)

	LV		NL		NO		PL		PT		SE		SI	
	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011	2005	2011
Medium education (F)	0.212***	0.162***	0.068**	0.030	-0.001	0.009	0.095***	0.073**	0.370***	0.082	0.054**	-0.001	0.108***	0.017
	(0.062)	(0.047)	(0.030)	(0.021)	(0.028)	(0.029)	(0.029)	(0.030)	(0.104)	(0.082)	(0.027)	(0.027)	(0.027)	(0.028)
High education (F)	0.297***	0.079	0.059	-0.018	-0.022	0.056	0.210***	0.106**	0.423***	0.193*	0.069**	-0.025	0.098	-0.006
	(0.114)	(0.079)	(0.038)	(0.028)	(0.040)	(0.036)	(0.065)	(0.053)	(0.142)	(0.107)	(0.027)	(0.035)	(0.070)	(0.055)
Medium education (M)	0.254***	0.093*	-0.013	0.038*	0.019	0.031	0.176***	0.090***	-0.010	0.191**	-0.028	0.010	0.024	0.122***
	(0.059)	(0.048)	(0.033)	(0.019)	(0.028)	(0.027)	(0.028)	(0.028)	(0.130)	(0.089)	(0.026)	(0.029)	(0.027)	(0.025)
High education (M)	0.382***	0.352***	0.027	0.094***	0.039	0.069**	0.357***	0.276***	0.116	0.037	0.024	0.052	-0.010	0.132***
	(0.090)	(0.063)	(0.045)	(0.028)	(0.031)	(0.032)	(0.056)	(0.047)	(0.115)	(0.087)	(0.029)	(0.034)	(0.082)	(0.037)
Manager (F)	0.024	0.137	0.201**	0.133***	0.065	0.035	0.306***	0.321***	0.542***	0.263***			0.280***	0.132*
	(0.166)	(0.114)	(0.087)	(0.041)	(0.048)	(0.045)	(0.057)	(0.050)	(0.070)	(0.067)			(0.063)	(0.068)
Professional (F)	0.128	0.319***	0.190**	0.125***	0.168***	0.044	0.355***	0.382***	0.514***	0.341***			0.207***	0.218***
	(0.172)	(0.099)	(0.094)	(0.040)	(0.057)	(0.049)	(0.068)	(0.051)	(0.161)	(0.100)			(0.065)	(0.067)
Technician (F)	0.180	0.132	0.225**	0.085**	0.071	0.015	0.280***	0.346***	0.546***	0.343***			0.122***	0.030
	(0.164)	(0.105)	(0.090)	(0.037)	(0.046)	(0.044)	(0.045)	(0.045)	(0.091)	(0.064)			(0.047)	(0.047)
Clerk (F)	-0.017	0.451**	0.338***	0.098**	0.104	0.028	0.112*	0.268***	0.443***	0.479***			0.082	0.051
	(0.238)	(0.223)	(0.094)	(0.046)	(0.066)	(0.067)	(0.059)	(0.058)	(0.087)	(0.080)			(0.052)	(0.056)
Salesman (F)	0.040	0.038	0.010	0.089**	0.047	-0.051	0.135*	0.193***	0.531***	0.285***			0.063	0.014
	(0.211)	(0.127)	(0.100)	(0.042)	(0.060)	(0.055)	(0.069)	(0.049)	(0.078)	(0.058)			(0.053)	(0.050)
Craft trade worker (F)	-0.022	0.121	0.148*	0.036	0.017	-0.062	0.111***	0.191***	0.221***	0.073*			-0.002	0.036
	(0.137)	(0.079)	(0.087)	(0.035)	(0.041)	(0.040)	(0.029)	(0.030)	(0.047)	(0.044)			(0.035)	(0.038)
Machine operator (F)	0.032	0.124	0.202**	-0.023	0.043	0.014	0.134***	0.170***	0.152**	0.102*			0.001	0.018
	(0.138)	(0.078)	(0.091)	(0.042)	(0.045)	(0.047)	(0.032)	(0.032)	(0.062)	(0.053)			(0.034)	(0.045)
Elementary occupation (F)	-0.018	0.034	0.134	-0.029	0.002	0.007	-0.026	0.048	0.102	0.141**			-0.095**	-0.061
	(0.145)	(0.094)	(0.099)	(0.056)	(0.115)	(0.067)	(0.039)	(0.039)	(0.063)	(0.061)			(0.048)	(0.040)
Armed/military (F)	0.159	0.033	0.119	0.114*	0.052	0.112	0.274***	0.314***	0.773***				0.122	0.387**
	(0.234)	(0.151)	(0.121)	(0.068)	(0.116)	(0.085)	(0.079)	(0.087)	(0.145)				(0.122)	(0.151)
Other EU			-0.064	-0.030	0.019	-0.037	0.028	0.548	0.028	0.251***	-0.005	-0.034		
			(0.103)	(0.061)	(0.062)	(0.053)	(0.550)	(0.468)	(0.163)	(0.086)	(0.042)	(0.078)		
Others	-0.025	-0.057	-0.227***	-0.182***	-0.393***	-0.276***	-0.352*	-0.294	-0.099	-0.020	-0.284***	-0.272***	-0.112***	-0.155***
	(0.067)	(0.063)	(0.052)	(0.029)	(0.058)	(0.048)	(0.201)	(0.328)	(0.114)	(0.052)	(0.032)	(0.057)	(0.033)	(0.029)
Constant	7.479***	8.076***	9.598***	9.913***	10.143***	10.492***	7.555***	8.283***	8.693***	8.902***	9.811***	10.038***	9.035**	9.355***
	(0.133)	(0.073)	(0.084)	(0.031)	(0.038)	(0.038)	(0.020)	(0.022)	(0.036)	(0.035)	(0.011)	(0.023)	(0.027)	(0.034)
Observations	1,133	1,682	1,886	2,852	2,226	1,783	6,576	4,387	1,466	1,684	2,234	1,634	2,034	2,456
R-squared	0.11	0.07	0.03	0.04	0.03	0.04	0.09	0.10	0.16	0.08	0.04	0.02	0.08	0.08

Table 2 continued on next page

Table 2. (*continued*)

	SK		UK	
	2005	2011	2005	2011
Medium education (F)	0.007	-0.021	0.170***	-0.002
	(0.034)	(0.038)	(0.039)	(0.036)
High education (F)	-0.013	0.214***	0.215***	0.067
	(0.061)	(0.072)	(0.054)	(0.048)
Medium education (M)	0.067**	0.112***	0.021	0.027
	(0.030)	(0.035)	(0.050)	(0.048)
High education (M)	0.073	0.082	0.094*	0.065
	(0.067)	(0.072)	(0.048)	(0.052)
Manager (F)	-0.002	0.137	0.141	-0.183
	(0.083)	(0.106)	(0.091)	(0.272)
Professional (F)	0.134	0.116	0.039	-0.269
	(0.089)	(0.104)	(0.096)	(0.267)
Technician (F)	0.026	0.156*	0.071	-0.135
	(0.079)	(0.091)	(0.096)	(0.266)
Clerk (F)	0.078	0.154	0.004	-0.223
	(0.095)	(0.115)	(0.115)	(0.266)
Salesman (F)	-0.046	0.070	0.053	-0.345
	(0.096)	(0.100)	(0.110)	(0.265)
Craft trade worker (F)	-0.012	0.079	-0.095	-0.503*
	(0.073)	(0.085)	(0.087)	(0.272)
Machine operator (F)	-0.044	0.066	-0.093	-0.406
	(0.073)	(0.085)	(0.088)	(0.271)
Elementary occupation (F)	-0.098	-0.103	-0.095	-0.391
	(0.074)	(0.091)	(0.091)	(0.265)
Armed/military (F)		0.230		
		(0.158)		
Other EU	-0.016	-0.217*	-0.121	0.006
	(0.102)	(0.128)	(0.193)	(0.068)
Others	-0.410**	-0.183	-0.269***	-0.235***
	(0.196)	(0.271)	(0.047)	(0.059)
Constant	7.895***	8.572***	9.961***	10.176***
	(0.069)	(0.101)	(0.082)	(0.263)
Observations	2,102	1,847	2,044	1,556
R-squared	0.02	0.06	0.07	0.04

Note: Income variables from 2005 and 2011 EU-SILC databases refer to incomes received in, respectively, 2004 and 2010. Omitted categories: low father education, low mother education, father occupation: skill agricultural; country of birth: local. If data for a given category are non-available, the omitted category is the next superior. (F) refers to fathers, (M) refers to mothers. Standard errors in parentheses * p<0.10, ** p<0.05, *** p<0.01.