

**Does economic crisis affect public opinion concerning development aid?**

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**Abstract**

This paper investigates public attitudes toward development aid as a result of both individual characteristics and donor's country economic situation. The dependent variable is the support to European Union humanitarian aid in spite of the current climate of fiscal austerity. Data from the Eurobarometer 77.1 (1<sup>st</sup> term 2012) are modeled using a sample selection ordered probit. Findings indicate that higher national expenditure in ODA (with respect to GDP) encourages a higher degree of knowledge of international humanitarian aid. Living in a country with meaningful social disparities (high Gini index or high percentage of immigrant population at risk of poverty) decreases the support to humanitarian aid as well as lower social benefits. By the contrary younger people, high educated or people living in a country with high GDP per capita increases the degree of support. Eventually these beliefs have configured a group of countries with the most negative attitudes towards EU humanitarian aid: (1) with the exception of Ireland, those countries which have received some type of "rescue" or financial aid, that is, Greece, Italy, Portugal and Spain and (2) some of the countries from the latest European enlargements (Bulgaria, Cyprus, Estonia, Latvia, Poland, Romania). It becomes clear that policymakers should emphasize the moral need for continued investment in development aid even in times of adversity.

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## **1. Introduction**

In 2011, the European Union-27 (Member States and European Commission) provided more than \$53 billions in Official Development Assistance, which represents 0.42% of EU-27 Gross National Income and more than half world development cooperation and humanitarian aid (DFID, 2012). This aid takes diverse forms: provision of goods and services, financing and disaster assistance. The EU also plays an important role in international forum. In 2000, the EU became a stake holder in the constitution of the global partnership around the Millennium Development Goals, and currently is helping to frame the post-2015 development agenda.

The competencies of EU regarding humanitarian aid were recognized in the Lisbon Treaty (which came into force 1<sup>st</sup> December 2009). Currently, the article 4.4 of the Treaty on the Functioning of the European Union establishes the following: “In the areas of development cooperation and humanitarian aid, the Union shall have competence to carry out activities and conduct a common policy; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs”.

In this study we have looked at the determinants of public opinion towards development aid in a European cross-national perspective. In comparison with the existing empirical literature on development aid, previous research has been mainly focussed on three issues. First, aid allocation and its effects over the receiving countries (Burnside and Dollar, 2000; Collier and Dollar, 2002; Easterley, 2003; Masud and Yontcheva, 2005; Rajan and Subramanian, 2005). Second, the analysis of how donor countries distribute their aid: to whom and why (Alesina and Weder, 2002; Neumayer, 2003; Gates and Hoeffler, 2004; Berthélemy, 2006; Nuunenkamp and Thiele, 2006; Chong and Gradstein, 2008). Most of this studies have tried to disentangle if humanitarian aid was due to self-interest or humanitarian concerns. The third branch of the literature studies why some donor countries give more aid than others, and have attempted to relate the ratio official development assistance with respect to GDP with other variables (domestic welfare state generosity, right-wing vs. left-wing governments) (Breuning and Ishiyima, 2003; Round and Odedokun, 2003).

The economic crisis in which we are living throughout several years might impinge upon the level of expenditure in humanitarian aid. Nonetheless, public support to humanitarian aid is essential to guarantee legitimacy of public policies, and therefore governments will only enhance sustainable humanitarian aid strategies if they think that public opinion supports these actions (Holsti, 2004; Henson et al., 2010). However, this is like a virtuous circle: people cannot state their opinion on any issue, if previously they have not received the necessary information. As the British Secretary of State for International Development stated at the Conference “Democracy and Development”, if people knew how official development assistance resources are really invested, they would show a higher degree of support. (7<sup>th</sup> March 2002, Spain) (Mc Donnell et al., 2003)

The interplay between public opinion and policy decision making is interesting and compelling. Several empirical studies have shown that public attitudes affect the behavior of politicians, as usually changes in public opinion come before political shifts (Page and Shapiro, 1983; Burnstein, 1998). On the other hand, Olsen (2001) in a case study of five European countries did not find a bottom-up relationship between public opinion and aid policy. But even if there is not a perfect relationship, it is clear that if public

opinion does not support development aid, policy makers will not take risks and enhance the necessary reforms (Collier, 2007).

The ability to attain increases in aid expenditure is conditioned, at least in part, on the underlying public opinion regarding development assistance. This implies the need to monitor public support towards development policies and to provide indicators that be implemented in political decision-making processes. Many of previous studies that have modeled public support towards aid are of a descriptive or theoretical nature (key exceptions are Noël and Thérien, 2002; van Heerde and Hudson, 2010). In this study we are going to use the Eurobarometer 77.1, which collects data across 27 European countries and provides an updated and rigorous insight into public opinions towards aid.

A priori it is not possible to determine, how public opinion concerning humanitarian aid is going to be affected by economic crisis. We can postulate several hypothesis: (1) People living in countries with the best socio-economic conditions might think that it is necessary to help poor countries (altruistic motivation according to Henson et al., 2010), although it is also possible that there exist shelter self-interest motivations because receiving countries may import goods from the donors countries, and therefore, humanitarian aid may lead to overall growth (Ridell, 2007); (2) Countries with unfavorable economic conditions might consider that that EU should devote less funds to humanitarian actions and invest more in social policies for European citizens, or by the contrary they could think the situation of developing countries is even worse than the European crisis, and consequently they may want to continue supporting development aid.

The aim of this paper is to unveil the way in which individual socio-demographic characteristics and national economic variables influence awareness of European development aid and the degree of support for aid to developing countries. The two main questions that we want to address are “How much does people know about development aid?” and “What do they really think?”. Both questions constitute an interesting and compelling issue given the wide-scale cuts in public expenditure.

We have used data from the Eurobarometer 77.1 (February-March 2012). This is not the first Eurobarometer that reports public opinion concerning humanitarian aid. Table 1 shows a summary of the answers to the question “How important or not important do you think is that the European Union funds humanitarian activities?”. The percentage who consider it “very/fairly important” shows a maximum in 1995 (95%) and a minimum in 1998 (76%). On the other hand, 16% (17%) of the respondents consider that these actions are “not very/not at all important” in 1991 (1998). And 11% of the population is torn between both alternatives in 2010. The singularity of the Eurobarometer 77.1 is that it includes a question relating funds devoted to humanitarian aid with present economic situation. Therefore, the question included in previous Eurobarometers considers an abstract perspective of humanitarian aid (regardless of the moment when it is provided), whereas the Eurobarometer 77.1 links humanitarian aid with the present environment of crisis restrictive budgetary policies. This timing between both events sets up a suitable framework for modeling public attitudes towards humanitarian aid in a context of economic crisis.

The structure of the paper is as follows. In section 2 we present a sample selection ordered model for estimating the probability of being aware of EU humanitarian aid and the degree of support towards it. Section 3 describes the data, while section 4 provides the results of the tests performed to validate the

model. Section 5 presents the empirical findings on the determinants of knowledge and intensity of support to humanitarian aid. Finally, section 6 presents some concluding remarks.

## **2. Model**

In the empirical analysis we consider a selection ordered probit model (SSOP), that is, a model in which the outcome of interest is a discrete variable, whose values are naturally ordered, and data observability is restricted to a binary selection mechanism (Greene and Hensher, 2010). The individuals interviewed in the Eurobarometer 77.1 are asked the following question: “*Europe is in economic crisis and there is considerable pressure on public finances. Nevertheless, the EU continues to fund humanitarian aid to provide assistance to the people in urgent need around the world. Is this something that you...? (1) totally support; (2) tend to support; (3) tend to oppose; (4) totally oppose*”. To a certain extent, this question unfolds the trade-off between tackling poverty at home rather in other parts of the world or recognizing the moral obligation to help the poor in developing countries. We denote by  $DS_i$  the ordinal variable “*the degree of support towards EU humanitarian aid*”.

However, this variable is only observed for those individuals who know that the EU carries out humanitarian activities. Therefore, we only observe ( $DS_i$ ) if a selection rule is met. This selection rule is given by the answers to the question “*Are you aware or not that the EU funds humanitarian aid activities?*”. We define a binary variable  $BA_i$  (“*being aware*”) that takes the value one when the individual already knew that the EU developed humanitarian projects and takes the value zero otherwise. The selection dummy is generated according to a continuous latent variable model:

$$\begin{aligned} BA_i^* &= \Lambda_i' \alpha + u_i \\ BA_i &= \begin{cases} 1 & \text{if is aware} \\ 0 & \text{if is not aware} \end{cases} \end{aligned} \quad (1)$$

where  $\Lambda_i'$  represents a vector of individual characteristics,  $\alpha$  is the vector of coefficients and  $u_i$  is a random error term. Consequently, the variable  $DS_i$  is missing if  $BA_i = 0$  and takes a limited number of ordered response categories,  $DS_{ij}$ ,  $j = 1, 2, 3, 4$  if  $BA_i = 1$ , although the difference between any pair does not necessarily has a cardinal interpretation. The dependent variable ( $DS_i$ ) is generated according to a continuous latent variable ( $DS_i^*$ ) that measures “*the intensity of the support towards EU humanitarian aid*”:

$$DS_i^* = \Pi_i' \beta + \varepsilon_i \quad (2)$$

where  $\Pi_i'$  represents a vector of individual characteristics,  $\beta$  is the vector of coefficients and  $\varepsilon_i$  is a random error term. The observed variable ( $DS_i$ ) is determined by a threshold model:

$$DS_i = \begin{cases} \text{missing if } BA_i = 0 \\ 1 \text{ if } DS_i^* > \lambda_1 \text{ and } BA_i = 1 \\ 2 \text{ if } \lambda_1 > DS_i^* > \lambda_2 \text{ and } BA_i = 1 \\ 3 \text{ if } \lambda_2 > DS_i^* > \lambda_3 \text{ and } BA_i = 1 \\ 4 \text{ if } \lambda_3 > DS_i^* \text{ and } BA_i = 1 \end{cases} \quad (3)$$

where  $\lambda_1, \lambda_2$  and  $\lambda_3$  are constants to be estimated along with the other parameters of the model.

The probabilities for each of the observed outcomes for the SSOP are:

$$\begin{aligned} \Pr[BA = 0 | \Lambda] &= 1 - \Phi(\Lambda' \alpha) \\ \Pr[BA = 1, PS = j | \Lambda, \Pi] &= \phi(\Lambda' \alpha, \lambda_j - \Pi' \beta; -\rho) - \phi(\Lambda' \alpha, \lambda_{j-1} - \Pi' \beta; -\rho) \quad j = 1, 2, 3 \\ \Pr[BA = 1, PS = 4 | \Lambda, \Pi] &= \phi(\Lambda' \alpha, \Pi' \beta - \lambda_3; \rho) \end{aligned} \quad (4)$$

where  $\Phi$  is the univariate standard normal and  $\phi$  is the bivariate standard normal. And the corresponding likelihood function is:

$$L = \sum_{i \in \{BA=0\}} \ln \Pr(BA = 0 | X_i) + \sum_{i \in \{BA=1\}} \sum_{j=1}^J \delta_{ij} \ln \Pr(BA = 1, PS_i = j | X_i, W_i, \beta) \quad (5)$$

$i = 1, \dots, N; \quad j = 1, 2, 3, 4$

where  $\delta_{ij}$  is an indicator function that takes the value 1 if the individual  $i$  chooses outcome  $j$  and zero otherwise.

As in the sample selection model (Heckman, 1979), the “selectivity” comes into play through the correlation between the error terms ( $\varepsilon_i$  and  $u_i$ ). We suppose that they follow a bivariate normal distribution with zero mean, variances equal to one and correlation coefficient equal to  $\rho$ . If the correlation coefficient between the error terms is zero, then the SSOP model can be reduced to two independent equations (probit + ordered probit). But if the correlation coefficient is significantly different from zero, and we estimate a two-part model composed by two independent equations, we will obtain biased estimations of the coefficients. Therefore, we must test the significance of the correlation coefficient and the appropriateness of the SSOP vs. a simple ordered probit.

The identification of the parameters of the model requires taking into account three restrictions. First, we assume that  $\Lambda'_i$  contains at least one variable that is not contained in  $\Pi'_i$ . The aim of this exclusion restriction is to solve any potential problem of weak identification. As some have stated, although the model could be identified through the non-linearity of the distribution functions, this could lead to problems of weak identification authors (Meng and Schmidt, 1985; Keane, 1992). Second, the intercept coefficient in  $\beta$  is normalized to zero because it is not possible to identify it separately from the threshold parameters ( $\lambda$ ). Third, to guarantee that the matrices of explanatory variables have strong supports, we must include at least one continuous variable in each of them (Manski, 1988).

### **3. Data**

In this paper we have used information from the Eurobarometer EB77.1 “Humanitarian aid” carried out by the European Commission between February and March 2012. The advantage of the Eurobarometer is

that it gathers information from all countries to the EU-27. Information was recorded through personal interview to of 26,751 individuals, aged 15 years and older (see Table 2 for country sample size). For each of the administrative regional units, sampling points were drawn after stratification by individual unit and type of area, and therefore, they are representative of Eurostat Nuts II.

Table 2 shows the descriptive statistics for our dependent variables. For the UE-27, 69.9% have reported being aware of EU humanitarian aid, with a maximum of 83.1% in Luxembourg and a minimum of 52.2% in Hungary. Regarding the degree of support to humanitarian aid in spite of the economic crisis, 39.9% of European population totally agree with them; 47.4% tend to support these initiatives, whereas 8.7% tend to oppose and 4% totally reject them. This partial or total rejection has to be contextualized with present circumstances. The absence of panel data restrain us from analyzing variations in personal support towards humanitarian aid according with economic cycle.

### 3.1 Explanatory variables of the model

To determine the set of explanatory variables we have relied on previous research (Noël and Thérien, 2002; Henson et al., 2010; van Heerde and Hudson, 2010). In the selection equation we include variables that might help to explain the propensity of being informed of EU humanitarian activities, that is, age (and its square), gender, marital status, years of education, self-reported level in the society, type of community (rural, small/middle, large town), nationality and relation with economic activity. We have also included country characteristics: the percentage of imports from the DAC countries, the importance of official development assistance (ODA) of the country and the percentage of population with low educational attainment (see Table 3 for a detailed definition of these variables). The percentage of imports from the DAC countries and the percentage of ODA with respect to GDP try to catch some sort of informative externality, that is, if having tight commercial links with DAC countries or devoting a larger fraction of it GDP to humanitarian aid, increases citizens' awareness of EU humanitarian actions.

In the ordered probit equation we include as explanatory variables age (and its square), gender, marital status, years of education, self-reported level in the society, difficulties for paying bills (most of the time, from time to time, almost never/never), nationality, relation with economic activity, number of children and single household with children. Regarding country characteristics we have included: real GDP growth rate between 2010-2011, GDP per capita in PPS, percentage of imports and percentage of ODA with respect to GDP, unemployment rate, long-term unemployment rate, people at risk of poverty, immigrant population at risk of poverty, social protection benefits in PPS, Gini index and the percentage of population with low educational attainment. Table 3 shows the definitions for all the country variables, as well as the maximum, minimum and average for EU-27.

The variable social protections benefits (in PPS) is included to test the hypothesis that the generosity of donor's country welfare state may influence individual attitudes towards development policies. Furthermore, the variable imports from DAC countries (% of GDP) allow us test the hypothesis of donor's countries trade-dependence with respect to developing countries.

We have included the number of children (and "single household with children") because we do not have a clear intuition regarding the sign of the coefficient in the ordered probit equation. On one hand, we could expect a negative coefficient based on the belief that parents would desire that government

increased expenditure in national education and other measures to reconcile family and work. On the other hand, a positive coefficient could be possible if having children reinforces parents' concerns on the situation of other children in developing countries.

We would have desired to include information regarding personal/household income, political opinions or religious beliefs, but the Eurobarometer does not provide it. Against this background, we have included the variable "ability to pay bills" to overlook the absence of income information. Additionally, the variable "long-term unemployment rate" tries to capture the situation of unemployed people who may have exhausted unemployment benefits.

Bringing into mind the exclusion restrictions mentioned in section 2, it becomes clear that we satisfy all of them: (1) type of community and percentage of low educational attainment are only included in the selection equation; (2) difficulties for paying bills, number of children, single household with children and 10 socio-economic country indicators are only included in the ordered probit equation; (3) we include two continuous variable in the ordered-probit equation (age and age square) and three continuous variables in the selection equation (age, age square and number of children in the household).

#### **4. Validation of the model**

To validate the SSOP we have performed three different tests: (1) test for the significance of the correlation coefficient and the cut-off points; (2) test of the appropriateness of the SSOP vs. an standard ordered probit model (OP); (3) test of the convenience of single pooled-data regression vs. multiple country regressions.

##### **4.1. Test for sample selection**

Table 4 shows the results from the estimation of the SSOP. The cut-off points ( $\lambda_1$ ,  $\lambda_2$  and  $\lambda_3$ ) are significant and the correlation coefficient ( $\rho$ ) is also significant at 1%, suggestion that the sample selection model used to correct the sample bias is appropriate. The negative sign of the correlation coefficient indicates that the unobservable variables affecting the probability of becoming aware of EU humanitarian aid are negatively correlated with the unobservable variables affecting the ordered variable. As our degree of support measure varies from 1 (total support) to 4 (not at all support), the correlation coefficient indicates that those unobservable variables which increase the probability of becoming aware of humanitarian actions are positively correlated with unobservable variables which increase the probability of supporting them (i.e., feelings of solidarity, philanthropy, religious beliefs, political orientations, open-minded attitudes). Finally, model significance is verified by a  $\chi^2$  test of the difference between the restricted and unrestricted log likelihood values. The statistic is significant at the 5% level.

##### **4.2. Testing the SSOP vs. the OP**

To assess the suitability of the SSOP with respect to a simple OP, we have performed the Vuong test (Vuong, 1979; Harris and Zhao, 2007). Let's denote by  $f_{SSOP}(PS | X_i, W_i, \beta)$  and  $f_{OP}(PS | X_i, W_i, \beta)$  the likelihood functions of the SSOP and the OP, respectively. Then we can define, the difference between them ( $d_i$ ) and the variance of the difference ( $\sigma_d^2$ )

$$d_i = f_{SSOP}(PS | X_i, Z_i, \beta) - f_{OP}(PS | X_i, Z_i, \beta) \quad (6)$$

$$\sigma_d^2 = \frac{1}{N} \sum_{i=1}^N (d_i - \bar{d})^2$$

Testing the equivalence between the SSOP and the OP is the same as testing the null hypothesis  $H_0: E[d_i] = 0$ . The test statistic ( $V$ ) is distributed as a standard normal and consequently if  $V > z_{\alpha/2}$ , we obtain support for the SSOP, if  $V < z_{\alpha/2}$ , it means that the OP is preferred to the SSOP and if  $|V| < z_{\alpha/2}$ , we do not obtain specific support to any specification.

$$V = \frac{\bar{d}}{N\sigma_d} \quad (7)$$

Results shown at the bottom of Table 4 indicate that the SSOP is better than the simple OP because the Vuong test is positive and higher than the critical value at 1% of significance.

#### 4.3. Pooled-regression vs. multiple regressions

To verify the appropriateness of performing a regression for all countries with a set of country dummies instead of a regression for each country, we have to test for the pooling assumptions.

When we estimate a single model with dummies for each country we assume that we can impose the same coefficient on each country for each regressor, that is, that on average the effect of each explanatory variable is the same across countries. However, if the size of the true effects varies among countries then the estimated coefficients will not provide reliable estimates of the change of the explanatory variable on the proposed probability: (1) the pooled coefficients will be biased towards zero and consequently will not be the average (Pesaran and Smith, 1995) and (2) this bias may be quite significant even if there is small parameter heterogeneity (Robertson and Symons, 1992).

For this reason, we have tested the convenience of the pooling assumption replacing each regressor for a set of 27 dummy terms, one for each country (for example, the coefficient for gender (male)) is replaced by a set of 27 dummies (male\*country<sub>i</sub>, i=1,..27). Due to the limited number of observations we could not replace all coefficients by a set of dummy terms at the same time, so we have performed this exercise in turn rather than simultaneously. Afterwards for any pair of coefficients estimated for the same regressor, it has been tested the equality between them (Wald test). Results (not shown due to their extension) indicate that the effects of explanatory variables do not seem to be distinct for each country, and therefore, it is more convenient to perform a regression for all countries (and include a set of country dummy).

## **5. Results**

### 5.1. Estimated coefficients

Table 4 reports the estimated coefficients of the ordered probit with sample selection model. In the selection equation we appreciate the significance of our exclusion restrictions. The percentage of national ODA and the percentage of imports from developing countries have a positive influence over the

probability of being aware of EU humanitarian actions, whereas the percentage of low educational attainment has a negative effect. The percentage of ODA is the most influential variable (coef: 0.479).

In the ordered probit equation, the exclusion restrictions imposed are also valid. The degree of difficulty for paying bills, number of children, living in a single household with children and 9 from the 10 national socio-economic indicators are significant. The percentage of official development assistance is not significant in the ordered probit equation. Neither gender nor marital status are significant in the ordered probit equation.

## 5.2. Predictions

In Table 5 we report the observed sample proportions and the predicted probabilities (evaluated at average covariates). We notice that the SSOP performs quite well both for the probability of being aware of development aid and the degree of support to it (even for categories  $DS_i = 3$  and  $DS_i = 4$  which are characterized by a small number of observations).

### 5.2.1. Individual characteristics

Using the estimated coefficients we compute the predicted probabilities for the dependent variables of our model (see Table 6). The probability of being aware that EU develops humanitarian aid actions show significant variability according to certain socio-demographic characteristics: (1) the predicted probability is 9.8% higher for men than for women; (2) describes a U-shape according to age, with a maximum at 45-54 years and a minimum at 75 years and older; (3) it is 12.04% higher for immigrant respondents as compared to not-foreign respondents; (4) 23.55% higher for separated/divorced as compared to widow; (5) 37.5% higher for people whose self-reported level in the society is the highest one as compared to those who believe that belong to the second level; (6) 98.73% higher for people with more than 20 years education as compared to those with no full time education; (7) 27.9% higher for workers as compared to people devoted to houseworking.

Regarding the predicted degree of support towards EU humanitarian aid, it is worth to highlight that the probability of providing “total support” to humanitarian aid attains its maximum for immigrant respondents (0.428; 38.51% increase with respect to not-foreign respondents) and for individuals with more than 20 years of education (0.394). We also observe that this probability is higher for households without problems for paying bills (0.330; 20% increase with respect to households with problems most of the time) and in households with 3 or more children (0.352; 15.03% as compared to households without children). By contrary, the probability of being totally against humanitarian aid attains the highest values for those with no full time education (0.266) and people who self-report belonging to the two lowest levels in the society (0.142).

### 5.2.2. Country characteristics

For making easier the understanding of the effect of country characteristics, we have computed the quartiles for each variable and afterwards, the predicted probability of  $BA_i$  and  $DS_{ij}$ ,  $j = 1, 2, 3, 4$  for each group of countries belonging to the same quartile.

The probability of being aware of EU humanitarian aid attains a maximum when ODA with respect to the GDP is higher than 0.52% (0.742) or when the percentage of population with low education is between 13.7% and 19.8% (0.731).

The highest predicted probability for “totally support” corresponds to countries with GDP per capita higher than 121 (0.374) or long-term unemployment rate lower than 2.7% (0.365). By the contrary, the highest opposition to EU humanitarian aid corresponds to countries with poverty index between 22.7% and 29.9% (0.108), Gini index higher than 33.2 (0.103), GDP per capita lower than 67 (0.103), real GDP growth lower than 0.9% (0.102) or social benefits in PPS lower than 31.45 (0.101).

Summing up the predicted probability for “totally support” and “tend to support” we observe that the highest degree of support is attained when GDP per capita is higher than 121 (0.826) and when long-term unemployment rate is lower than 2.7% (0.820). Comparing the list of countries appearing in both situations, we can conclude that Denmark, Luxembourg, Netherlands and Finland are the most favorable countries towards humanitarian aid.

Repeating this same exercise for the categories “tend to oppose” and “totally oppose”, the least favorable attitudes towards humanitarian aid correspond are located in countries with real GDP growth rate lower than 0.9% (0.235), GDP per capita lower than 67 or between 67 and 98 (0.237 and 0.244, respectively), poverty ration between 22.7% and 29.9% (0.246), social benefits in PPS lower than 31.45 (0.234) and Gini index higher than 33.2 (0.234). Comparing the list of countries for the four variables mentioned we observe that the countries less disposed to humanitarian aid are Spain and Portugal (appear in all categories), Bulgaria, Cyprus, Estonia, Greece, Italy, Latvia, Poland and Romania (appear in 3 of the 4 categories). Therefore, the worst attitudes towards EU humanitarian aid is concentrated in two specific group of countries: (1) the group of countries who have received some type of “rescue” or financial aid from the European Central Bank (with the exception of Ireland) and (2) a subset of the group of countries who became integrated in the EU in the latest enlargements (2004: Cyprus, Estonia, Latvia and Poland; 2007: Bulgaria and Romania).

## **6. Conclusions**

This study makes several contributions to the present literature. We have addressed the question of how economic crisis (and budgetary restrictive policies) have affected individuals’ opinion towards humanitarian aid. We have tested if countries with the worst economic conditions show a favorable attitude towards humanitarian countries in extra-Europe countries or if by the contrary, they think that “charity should begin at home”. Among the main limitations of the paper we have to recognize that the question used to assess the degree of support towards humanitarian aid is quite general. It does refer to general European humanitarian aid, and does not specifically refer to national agencies for development and co-operation. Besides that, we do not know if public opinion is affected by the perception of corruption in receiving countries or if the respondent would prefer that humanitarian aid would be channeled to some countries rather than to others. .

As for the results obtained, we observe that the impact of economic crisis is mediated by a number of socio-economic variables. Men show a higher degree of knowledge of European development programs, although there are not significant differences in the degree of support between both genders. This

evidence is in contrast with results from others authors (Svallors, 1997; Arts and Gelissen, 2001) according to which men and women hold different values: women emphasize equality and need principles, whereas men emphasize the merit principle. However, given that papers mentioned above used “quite-old” surveys (1992 for Svallfors; 1996 and 1999 for Arts and Gelissen), the absence of significance in 2012 may reveal that gender-related differences have vanished across time.

The highest degree of support correspond to medium-age individuals and also that the oldest cohort exhibit the least degree of support. This difference may reflect that certain values such as “universality” or “considering oneself as a global citizen” have been become institutionalized and young people exposed to them are more prone to embrace part of it (Hofstede, 2001). Being immigrant has a positive effect in both equations reflecting greater emotional or real links with poor countries, and thus, are more likely to support aid spending.

Regarding country characteristics, there is some sort of communicating vessels effect between national ODA and citizen’s awareness of humanitarian projects, in the sense that higher national expenditure in ODA (with respect to GDP) encourages a higher degree of knowledge of international humanitarian aid. Therefore, a better coordination between national and international institutions should enhance the positive impact of development policies over public knowledge. We have also confirmed that lower social benefits are associated with higher degree of rejection to EU humanitarian aid, which indicates that welfare state policies and development aid express the same values responds to the concern for alleviating poverty (Lumsdaine, 1993; Noël and Thérin, 1995).

By contrast, living in a country with meaningful social disparities (high Gini index or high percentage of immigrant population at risk of poverty) decreases the support to humanitarian aid. This result is in line with Kopczuk et al (2003) in the sense that people living in developed countries attach a very small weight to citizens’ welfare in poor countries that they do to the welfare of their own poor.

Some European countries have experienced a dramatic increase of unemployment rate since the beginning of the crisis. Stern (1998) analyzed the impact of economic variables over support for humanitarian aid, and found that the GDP growth and unemployment rate were not statistically significant. In our model, we appreciate that long-term unemployment rate has a negative and significant influence over humanitarian aid. In other words, people living in countries with high long-term unemployment rate would prefer that part of European humanitarian aid was invested in labor or social policies in European countries.

As a final conclusion, our results suggest that the economic crisis and the ensuing fiscal austerity measures are prejudicing people’s attitudes towards development aid in certain countries. In these countries, policymakers face a new challenge and we would recommend to follow an up-bottom strategy: (1) emphasize the moral need for continued investment in development aid even in times of adversity, (2) remember citizens the long-term nature of the development projects, (3) involve the public in the debate about the results and impact of development programs and thus strength proactive public engagement. People living in developed countries must understand that development is a process of realizing human capabilities and increasing opportunities so that individuals can live the lives that they value (Sen, 1999). It is necessary to educate public opinion and devote and increasing percentage of official development aid to create a more informed public opinion because “there is no effective action without sufficient prior

awareness” (Klingemann and Römmele, 2002). Knowing the “specific” objectives of developmental policies, people would mobilise for justice rather than for charity. A new perception of development aid as a “global public good” would arise (Lahiri and Schweinberger, 2006), according to which people would have internalized that what is good for them (poor countries) is also good for us.

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## Tables

Table 1. Evolution of the answers to the question: "How important or not important do you think is that the European Union funds humanitarian activities?"

	Very/fairly important	Not very/not at all important	Do not know
1991	80%	16%	4%
1995	95%	3%	2%
1996	82%	12%	6%
1998	76%	17%	7%
2002	83%	11%	7%
2004	91%	7%	2%
2006	88%	6%	6%
2009	88%	9%	3%
2010	79%	10%	11%
2012	88%	5%	7%

Source: Special Eurobarometers from different years. Autumn 1991 EB 36.1; Winter 1995 EB 44.1; Autumn 1996 EB 46.0; Autumn 1998 EB 50.1; Autumn 2002 EB 58.2; Winter 2004 EB 62.2; Summer 2006 EB 65.4; Spring 2009 EB 71.2; Winter 2010 EB 73.2; Winter 2012 EB 77.1

Table 2. Public opinion concerning European Union humanitarian aid in 2012 (by country)

	Country	N	Are you aware that EU funds humanitarian aid activities?		Continuation of EU humanitarian during economic crisis (Restricted to those who report being aware of the existence of EU humanitarian aid)			
			Yes	No	Totally support	Tend to support	Tend to oppose	Totally oppose
EU-27	European Union-27	26,751	69.6	30.4	39.9	47.4	8.7	4.0
BE	Belgium	1,051	79.7	20.3	46.4	41.8	6.3	5.5
BG	Bulgaria	1,006	71.8	28.2	29.8	49.2	17.3	3.7
CZ	Czech Rep.	1,003	63.2	36.8	34.7	57.0	6.3	2.0
DK	Denmark	1,019	72.9	27.1	57.6	35.6	5.4	1.5
DE	Germany	1,552	73.1	26.9	48.0	41.1	8.3	2.7
EE	Estonia	1,000	76.5	23.5	26.5	55.7	12.2	5.6
IE	Ireland	1,008	75.0	25.0	41.5	53.1	3.1	2.4
GR	Greece	999	64.6	35.4	34.7	48.6	10.2	6.5
SP	Spain	1,004	67.5	32.5	46.4	35.3	10.9	7.4
FR	France	1,059	75.8	24.2	39.0	48.4	7.8	4.8
IT	Italy	1,036	53.7	46.3	26.2	58.4	10.1	5.4
CY	Cyprus	506	74.6	25.4	37.1	45.6	10.5	6.8
LV	Latvia	1,024	78.4	21.6	29.0	57.1	9.8	4.1
LT	Lithuania	1,021	73.5	26.5	40.0	49.7	6.4	3.9
LU	Luxembourg	501	83.1	16.9	51.0	43.5	2.9	2.6
HU	Hungary	1,021	52.2	47.8	40.9	48.0	7.4	3.7
MT	Malta	500	70.4	29.6	30.5	59.2	6.7	3.6
NL	Netherlands	1,014	79.8	20.2	41.3	51.7	5.1	2.0
AT	Austria	1,031	57.9	42.1	45.6	49.3	4.2	0.9
PL	Poland	1,000	71.8	28.2	27.7	57.0	10.6	4.7
PT	Portugal	1,009	65.9	34.1	45.9	41.4	9.3	3.5
RO	Romania	1,020	63.1	36.9	39.3	46.8	9.6	4.4
SI	Slovenia	1,017	72.9	27.1	37.0	51.7	9.6	1.8
SK	Slovakia	1,000	55.9	44.1	36.1	53.0	7.2	3.8
FI	Finland	1,003	71.3	28.7	62.6	26.5	7.2	3.7
SW	Sweden	1,016	73.1	26.9	62.1	27.9	8.5	1.5
UK	United Kingdom	1,331	69.7	30.3	40.0	47.7	8.3	4.1

Source: Own work using Eurobarometer 77.1

Table 3. National socio-economic indicators (for the 27 countries)

	Min.	Max.	Mean (EU-27)
Real GDP growth rate (2010-2011)	-7.1%	8.3%	1.5%
	GR	EE	
GDP per capita in PPS (2011)	49	271	100
	RO	LUX	
Imports from the DAC countries as % of GDP (2011)	2.7%	18.4%	6.1%
DAC countries: countries refer to developing countries and territories on Part I of the OECD/DAC list of Aid Recipients for which there is a long-standing United Nations target of 0.7% of donors' gross national product.	IE	NL	
Official development assistance (ODA) (% of GDP (2011))	0.07%	1.02%	0.42%
Grants or loans that are undertaken by the official sector with promotion of economic development and welfare in the DAC countries as the main objective.	LV	SW	
Unemployment rate (%) (2011)	4.2%	21.7%	9.6%
	AT	SP	
Long-term unemployment rate (%) (2011)	1.1%	9.0%	4.1%
	AT	SP	
People at risk of poverty (% of total population) (2011)	15.3%	49.1%	24.2%
	CZ	BG	
Immigrant population at risk of poverty (% of total immigrant population living in that country) (2011). Immigrant population refers to non EU-27 countries.	21.5%	57.85	39%
	CZ	GR	
Social protection benefits (PPS per inhabitant) (2010)	17.92	668.28	107.27
	HU	NL	
Gini index (2011) (0= perfect equality; 100 = maximum inequality)	23.8	35.2	30.7
	SI	LV	
Low educational attainment (% of people aged 25 to 64 with an education level ISCED (International Standard Classification of Education) of 2 or less. ISCED levels 0-2: pre-primary, primary and lower secondary education) (2011)	7.1%	68.5%	26.6%
	LT	MT	

Source: Eurostat Statistics. Gini index and population at risk of poverty for Ireland corresponds to 2010. Percentage of immigrant population at risk of poverty missing for Romania. For a list of DAC countries for 2012-2013 see: <http://www.oecd.org/dac/stats/DAC%20List%20used%20for%202012%20and%202013%20flows.pdf>

Table 4. Estimation of the ordered probit model with sample selection

	Equation: Aware that EU funds humanitarian aid activities		Degree of support to the continuation of EU humanitarian during economic crisis	
	Coef.	Std. Dev.	Coef.	Std. Dev.
Male	0.152	0.017 ***	0.030	0.035
Age	0.036	0.003 ***	-0.016	0.007 **
Age square	0.0003	0.00003 ***	0.0003	0.00002 ***
Marital status				
Married/cohabiting	0.220	0.071 ***	0.051	0.096
Single	0.119	0.071 *	0.071	0.088
Divorced/separated	0.252	0.078 ***	0.057	0.104
Widow	0.206	0.078 ***	0.046	0.106
Years of education				
Less than 15	0.158	0.076 **	0.087	0.100
16-19	0.384	0.074 ***	-0.075	0.020 ***
20 or more	0.647	0.075 ***	-0.303	0.144 **
Still studying	0.037	0.020 **	-0.493	0.171 ***
No full time education	-0.095	0.044 ***	0.432	0.187 **
Self-reported level in the society				
1 (lowest)	-0.009	0.004 ***	-0.055	0.104
2	-0.267	0.007 ***	-0.007	0.101
3	-0.026	0.006 ***	-0.142	0.066 **
4	-0.047	0.005 ***	-0.148	0.062 **
5	0.058	0.005 ***	-0.187	0.056 ***
6	0.040	0.005 ***	-0.222	0.057 ***

7	0.059	0.005 ***	-0.252	0.057 ***
8	0.126	0.056 **	-0.260	0.063 ***
9	-0.023	0.008 ***	-0.236	0.094 **
10 (highest)	0.149	0.007 ***	-0.077	0.108
Tye of community				
Rural area or village	0.278	0.109 ***		
Small or middle size town	0.252	0.100 ***		
Large town	0.265	0.125 ***		
Difficulties for paying bills (last year)				
Most of the time			-0.221	0.064 ***
From time to time			-0.228	0.059 ***
Almost never/never			-0.271	0.057 ***
Immigrant	0.162	0.047 ***	-0.301	0.047 ***
Relation with economic activity				
Working	-0.611	0.082 ***	-0.151	0.048 ***
Retired or unable to work	-0.591	0.086 ***	-0.129	0.057 **
Unemployed	-0.633	0.085 ***	-0.155	0.054 ***
Houseworking	-0.792	0.086 ***	-0.125	0.058 ***
Children				
Single household with children			-0.042	0.011 ***
National cocio-economic indicators			0.070	0.039 *
Real GDP growth rate			0.026	0.004 ***
GDP per capita in PPS			0.002	0.001 ***
Imports from the DAC countries	0.007	0.003 **	0.009	0.003 ***
Official development assistance	0.479	0.049 ***	-0.470	0.063 ***
Unemployment rate			-0.041	0.004 ***
Long-term unemployment rate			-0.074	0.015 ***
People at risk of poverty			-0.026	0.007 ***
Immigrant pop. at risk of poverty			-0.004	0.002 **
Social protection benefits in PPS			-0.001	0.000 ***
Gini index			-0.010	0.003 ***
Low educational attainment	-0.004	0.001 ***		
Constant	-0.755	0.293 ***		
$\lambda_1$	-2.320	0.371 ***		
$\lambda_2$	-0.908	0.406 **		
$\lambda_3$	0.598	0.287 **		
$\rho$	-0.513	0.171 ***		
N = 26,751				
Log-likelihood = -33779.37				
LR $\chi^2$ (76) = 2740.03				
Vuong Test: SSOP vs. OP				
Prob > $\chi^2$ = 0.0000				
$\omega=4.16$ p-value=0.0000				

Omitted categories: female, missing marital status, missing years of education, missing self-reported level in the society, missing type of community, missing difficulties for paying bills. Country dummies not shown due to space limitations. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidon-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta and Macedonia). The number of raws is equal to the square root of the number of observations by country.

Table 5. Comparision between sample proportions and predicted probabilities from the SSOP

	Sample proportion	Predicted probability
Are you aware that EU funds humanitarian aid activities?	0.696	0.694
Continuation of EU humanitarian during economic crisis (Restricted to those who report being aware of the existence of EU humanitarian aid)		
Totally support	0.367	0.359
Tend to support	0.483	0.488
Tend to oppose	0.096	0.098
Totally oppose	0.054	0.055

Source: Own work using Eurobarometer 77.1

Table 6. Predicted probabilities. Being aware of European Union humanitarian aid and degree of support to European Union Humanitarian aid (individual explanatory variables)

	Being aware: YES	Degree of support			
		Totally support	Tend to support	Tend to oppose	Totally oppose
Gender					
Male	0.717 (0.091)	No signif.	No signif.	No signif.	No signif.
Female	0.653 (0.108)				
Age					
15-24	0.632 (0.078)	0.282 (0.072)	0.473 (0.015)	0.137 (0.028)	0.108 (0.042)
25-43	0.692 (0.087)	0.306 (0.076)	0.471 (0.018)	0.129 (0.028)	0.095 (0.037)
35-44	0.722 (0.090)	0.335 (0.081)	0.464 (0.023)	0.118 (0.029)	0.083 (0.035)
45-54	0.733 (0.088)	0.335 (0.080)	0.465 (0.023)	0.118 (0.028)	0.083 (0.034)
55-64	0.709 (0.097)	0.324 (0.083)	0.466 (0.023)	0.122 (0.029)	0.088 (0.037)
65-74	0.656 (0.105)	0.305 (0.085)	0.468 (0.020)	0.129 (0.031)	0.098 (0.043)
75 and more	0.565 (0.119)	0.267 (0.083)	0.470 (0.020)	0.144 (0.032)	0.119 (0.051)
Nationality					
Not immigrant	0.681 (0.105)	0.309 (0.079)	0.469 (0.018)	0.128 (0.029)	0.095 (0.040)
Immigrant	0.763 (0.085)	0.428 (0.085)	0.433 (0.041)	0.088 (0.024)	0.051 (0.022)
Marital status					
Married/cohabiting	0.701 (0.102)	No signif.	No signif.	No signif.	No signif.
Single	0.656 (0.088)				
Separated/divorced	0.729 (0.089)				
Widow	0.590 (0.120)				
Self-reported level in the society					
1 (lowest)	0.622 (0.116)	0.231 (0.073)	0.469 (0.024)	0.158 (0.029)	0.142 (0.057)
2	0.544 (0.107)	0.230 (0.068)	0.471 (0.018)	0.158 (0.027)	0.142 (0.051)
3	0.636 (0.105)	0.266 (0.071)	0.474 (0.015)	0.144 (0.027)	0.116 (0.041)
4	0.635 (0.105)	0.279 (0.075)	0.473 (0.016)	0.139 (0.028)	0.109 (0.041)
5	0.685 (0.097)	0.303 (0.076)	0.471 (0.018)	0.129 (0.028)	0.096 (0.037)
6	0.693 (0.099)	0.328 (0.076)	0.467 (0.020)	0.120 (0.027)	0.085 (0.033)
7	0.715 (0.095)	0.352 (0.079)	0.461 (0.025)	0.112 (0.027)	0.075 (0.031)
8	0.741 (0.093)	0.361 (0.077)	0.459 (0.025)	0.109 (0.026)	0.072 (0.029)
9	0.702 (0.100)	0.341 (0.077)	0.464 (0.023)	0.116 (0.027)	0.079 (0.031)
10 (highest)	0.748 (0.099)	0.281 (0.085)	0.469 (0.022)	0.138 (0.032)	0.112 (0.053)
Tye of community					
Rural area or village	0.682 (0.106)	Not included	Not included	Not included	Not included
Small or middle size town	0.681				

Large town	(0.106) 0.691 (0.102)				
Difficulties for paying bills (last year)					
Most of the time	Not included	0.275 (0.076)	0.472 (0.016)	0.140 (0.029)	0.112 (0.044)
From time to time		0.291 (0.078)	0.471 (0.017)	0.134 (0.029)	0.103 (0.041)
Almost never/never		0.330 (0.081)	0.465 (0.023)	0.120 (0.028)	0.085 (0.035)
Children living at home					
None	Not included	0.306 (0.081)	0.469 (0.020)	0.129 (0.030)	0.097 (0.041)
1		0.321 (0.083)	0.466 (0.021)	0.123 (0.030)	0.089 (0.038)
2		0.341 (0.083)	0.462 (0.024)	0.116 (0.029)	0.080 (0.035)
3		0.352 (0.091)	0.458 (0.028)	0.113 (0.031)	0.078 (0.039)
More than 3		0.352 (0.091)	0.458 (0.028)	0.113 (0.031)	0.078 (0.039)
Single household with children	Not included	0.282 (0.082)	0.471 (0.018)	0.138 (0.031)	0.110 (0.046)
Years of education					
Less than 15		0.572 (0.085)	0.231 (0.047)	0.477 (0.012)	0.157 (0.019)
16-19		0.685 (0.072)	0.290 (0.056)	0.476 (0.010)	0.134 (0.022)
20 or more		0.785 (0.060)	0.394 (0.064)	0.450 (0.025)	0.098 (0.021)
Still studying		0.662 (0.065)	0.315 (0.062)	0.472 (0.016)	0.124 (0.023)
No full time education		0.395 (0.092)	0.115 (0.046)	0.413 (0.037)	0.205 (0.017)
Relation with economic activity					
Houseworking		0.565 (0.108)	0.246 (0.072)	0.472 (0.017)	0.152 (0.028)
Student		0.662 (0.065)	0.315 (0.062)	0.472 (0.016)	0.124 (0.023)
Unemployed		0.663 (0.093)	0.288 (0.079)	0.471 (0.018)	0.135 (0.029)
Retired, unable to work		0.659 (0.109)	0.299 (0.084)	0.469 (0.020)	0.132 (0.031)
Working		0.723 (0.090)	0.332 (0.081)	0.465 (0.023)	0.119 (0.029)

Table 7. Predicted probabilities. Being aware of European Union humanitarian aid and degree of support to European Union Humanitarian aid (national socio-economic indicators)

	Being aware: YES	Degree of support			
		Totally support	Tend to support	Tend to oppose	Totally oppose
Real GDP growth rate (2010-2011) 1 <sup>st</sup> quartil: $GDP_{2010-2011} \leq 0.9\%$ GR,SP,IT,CY,PT,SI,UK 2 <sup>nd</sup> quartil: $0.9\% < GDP_{2010-2011} \leq 1.7\%$ DK,IE,HU,MT,NL 3 <sup>rd</sup> quartil: $1.7\% < GDP_{2010-2011} \leq 3\%$ BE,BG,CZ,DE,FR,LU,AT,RO,FI 4 <sup>th</sup> quartil: $GDP_{2010-2011} > 3\%$ EE,LV,LT,PL,SK,SW	Not included	0.294 (0.079)	0.471 (0.017)	0.133 (0.030)	0.102 (0.042)
GDP per capita in PPS (2011) (EU-27=100) 1 <sup>st</sup> quartil: $GDP_{pc} \leq 67$ BG,EE,LV,LT,HU,PL,RO 2 <sup>nd</sup> quartil: $67 < GDP_{pc} \leq 98$ CZ,GR,SP,CY,MT,PT,SI,SK 3 <sup>rd</sup> quartil: $98 < GDP_{pc} \leq 121$ BE,DE,FR,IT,FI,UK 4 <sup>th</sup> quartil: $GDP_{pc} > 121$ DK,IE,LU,AT,NL,SW	Not included	0.290 (0.072)	0.473 (0.015)	0.134 (0.027)	0.103 (0.040)
Imports from the DAC countries as % of GDP (2011) 1 <sup>st</sup> quartil: Imports $\leq 4.09\%$ DK,IE,FR,PL,FI,SW 2 <sup>nd</sup> quartil: $4.09\% < Imports \leq 5.46\%$ EE,GR,CY,LV,LT,AT,UK 3 <sup>rd</sup> quartil: $5.46\% < Imports \leq 6.89\%$ DE,SP,IT,LU,MT,PT,RO,SK 4 <sup>th</sup> quartil: Imports $> 6.89\%$ BE,BG,CZ,HU,NL,SI	0.713 (0.102) 0.701 (0.096) 0.656 (0.107) 0.704 (0.092)	0.319 (0.086) 0.306 (0.080) 0.314 (0.083) 0.311 (0.079)	0.466 (0.022) 0.469 (0.018) 0.467 (0.022) 0.469 (0.018)	0.124 (0.031) 0.129 (0.029) 0.126 (0.030) 0.126 (0.029)	0.091 (0.041) 0.096 (0.039) 0.093 (0.041) 0.093 (0.039)
Official development assistance (% of GDP (2011)) 1 <sup>st</sup> quartil: $ODA \leq 0.11\%$ BG,GR,LV,HU,PL,RO,SK 2 <sup>nd</sup> quartil: $0.11\% < ODA \leq 0.25\%$ CZ,EE,IT,CY,LT,MT,NL,SI 3 <sup>rd</sup> quartil: $0.25\% < ODA \leq 0.52\%$ DE,IE,SP,FR,AT,PT,FI 4 <sup>th</sup> quartil: $ODA > 0.52\%$ BE,DK,LU,SW,UK	0.658 (0.091) 0.635 (0.097) 0.686 (0.106) 0.742 (0.096)	No signif.	No signif.	No signif.	No signif.
Unemployment rate (%) (2011) 1 <sup>st</sup> quartil: $UR \leq 7.4\%$ BE,CZ,DE,LU,MT,NL,AT 2 <sup>nd</sup> quartil: $7.4\% < UR \leq 8.2\%$ DK,CY,RO,SI,FI,SW,UK 3 <sup>rd</sup> quartil: $8.2\% < UR \leq 12.9\%$ BG,EE,FR,IT,HU,PL,PT 4 <sup>th</sup> quartil: $UR > 12.9\%$ IE,GR,SP,LV,LT,SK	Not included	0.330 (0.081) 0.320 (0.092) 0.299 (0.077) 0.313 (0.084)	0.466 (0.024) 0.464 (0.024) 0.471 (0.016) 0.467 (0.020)	0.120 (0.028) 0.124 (0.033) 0.131 (0.029) 0.126 (0.031)	0.085 (0.035) 0.092 (0.042) 0.099 (0.041) 0.093 (0.042)
Long-term unemployment rate (%) (2011) 1 <sup>st</sup> quartil: $Long\_UR \leq 2.7\%$ DK,CY,LU,NL,AT,FI,SW 2 <sup>nd</sup> quartil: $2.7\% < Long\_UR \leq 3.6\%$ BE,CZ,DE,MT,PL,RO,SI,UK 3 <sup>rd</sup> quartil: $3.6\% < Long\_UR \leq 7.1\%$ BG,EE,FR,IT,HU,PT 4 <sup>th</sup> quartil: $Long\_UR > 7.1\%$ IE,GR,SP,LV,LT,SK	Not included	0.365 (0.091) 0.305 (0.079) 0.307 (0.079) 0.313 (0.084)	0.455 (0.033) 0.470 (0.018) 0.469 (0.017) 0.467 (0.020)	0.108 (0.030) 0.129 (0.029) 0.128 (0.029) 0.126 (0.031)	0.072 (0.034) 0.096 (0.039) 0.095 (0.041) 0.093 (0.042)
People at risk of poverty (% of total population) (2011) 1 <sup>st</sup> quartil: $POV \leq 19.3\%$ CZ,DK,FR,LU,NL,AT,SI,FI,SW 2 <sup>nd</sup> quartil: $19.3\% < POV \leq 22.7\%$	Not included	0.344 (0.098) 0.332	0.458 (0.032) 0.466	0.116 (0.034) 0.119	0.082 (0.041) 0.084

BE,DE,MT,SK		(0.078)	(0.021)	(0.028)	(0.034)
3 <sup>rd</sup> quartil: 22.7% < POV ≤ 29.9%		0.282	0.472	0.137	0.108
EE,IE,SP,IT,CY,PL,PT,UK		(0.075)	(0.016)	(0.029)	(0.043)
4 <sup>th</sup> quartil: POV > 29.9%		0.318	0.468	0.124	0.090
BG,GR,LV,LT,HU,RO		(0.076)	(0.018)	(0.028)	(0.037)
Immigrant population at risk of poverty					
1 <sup>st</sup> quartil: Immig <sub>POV</sub> ≤ 31.2%	Not included	0.315	0.468	0.125	0.092
CZ,DE,LU,MT,NL,UK		(0.081)	(0.022)	(0.029)	(0.038)
2 <sup>nd</sup> quartil: 31.2% < Immig <sub>POV</sub> ≤ 38.6%		0.303	0.469	0.130	0.098
DK,EE,IE,CY,LT,HU,AT,PL,SK		(0.082)	(0.020)	(0.030)	(0.042)
3 <sup>rd</sup> quartil: 38.6% < Immig <sub>POV</sub> ≤ 43.6%		0.324	0.465	0.122	0.089
BE,SP,FR,FI,SW		(0.085)	(0.022)	(0.031)	(0.040)
4 <sup>th</sup> quartil: Immig <sub>POV</sub> > 43.6%		0.303	0.469	0.130	0.099
BG,GR,IT,LV,PT,RO,SI		(0.082)	(0.018)	(0.031)	(0.044)
Social protection benefits (PPS per inhabitant) (2010)					
1 <sup>st</sup> quartil: Soc_ben ≤ 31.45	Not included	0.294	0.472	0.133	0.101
BG,EE,IT,LV,HU,PL,RO		(0.072)	(0.015)	(0.027)	(0.039)
2 <sup>nd</sup> quartil: 31.45 < Soc_ben ≤ 66.08		0.303	0.469	0.130	0.098
CZ,DE,SP,MT,PT,UK		(0.081)	(0.019)	(0.030)	(0.042)
3 <sup>rd</sup> quartil: 66.08 < Soc_ben ≤ 201.57		0.327	0.466	0.121	0.086
IE,GR,FR,LT,AT,SI,SK		(0.079)	(0.020)	(0.029)	(0.036)
4 <sup>th</sup> quartil: Soc_ben > 201.57		0.368	0.454	0.107	0.071
BE,DK,CY,LU,NL,FI,SW		(0.089)	(0.033)	(0.029)	(0.033)
Gini index (2011)					
1 <sup>st</sup> quartil: Gini ≤ 26.3	Not included	0.336	0.462	0.118	0.084
BE,CZ,NL,AT,SI,SK,FI,SW		(0.088)	(0.024)	(0.031)	(0.040)
2 <sup>nd</sup> quartil: 26.6 < Gini ≤ 30.8		0.340	0.463	0.116	0.080
DK,DE,FR,CY,LU,HU,MT		(0.083)	(0.027)	(0.028)	(0.033)
3 <sup>rd</sup> quartil: 30.8 < Gini ≤ 33.2		0.300	0.471	0.131	0.098
EE,IT,LT,PL,UK		(0.076)	(0.016)	(0.028)	(0.039)
4 <sup>th</sup> quartil: Gini > 33.2		0.297	0.469	0.132	0.103
BG,IE,GR,SP,LV,PT,RO		(0.085)	(0.019)	(0.032)	(0.047)
Low educational attainment					
1 <sup>st</sup> quartil: Low_Educ ≤ 13.7%	0.699	Not included	Not included	Not included	Not included
CZ,DE,EE,LV,LT,PL,SK	(0.089)				
2 <sup>nd</sup> quartil: 13.7% < Low_Educ ≤ 19.8%	0.731				
BG,HU,AT,SI,FI,SW	(0.110)				
3 <sup>rd</sup> quartil: 19.8% < Low_Educ ≤ 27.7%	0.709				
DK,IE,CY,LU,RO,UK	(0.098)				
4 <sup>th</sup> quartil: Low_Educ > 27.2%	0.657				
BE,GR,SP,FR,IT,MT,NL,PT	(0.111)				