



GINI

INCOME INEQUALITY AND SOLIDARITY IN EUROPE

Marii Paskov and Caroline Dewilde

GINI DISCUSSION PAPER 33
MARCH 2012

GROWING INEQUALITIES' IMPACTS

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Bibliographic Information

Paskov, M. and Dewilde, C. (2012). Income Inequality and Solidarity in Europe. Amsterdam, AIAS, GINI Discussion Paper 33

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Income Inequality and Solidarity in Europe

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Table of contents

ABSTRACT	7
1. INTRODUCTION	9
2. THEORETICAL CONSIDERATIONS	11
2.1. What is solidarity (not)?	11
2.2. Income inequality and solidarity	13
2.3. Controlling for alternative explanations	17
3. METHODOLOGY	19
3.1. Data	19
3.2. Variables	19
3.3. Methodological approach	20
4. RESULTS	21
4.1. Measuring solidarity: a validity check	21
4.2. Solidarity in Europe: some descriptive statistics	22
4.3. Multi-level analysis of solidarity	23
5. CONCLUSION AND DISCUSSION	29
REFERENCES.....	33
APPENDICES.....	37
Appendix A.....	37
Appendix B.....	38
GINI DISCUSSION PAPERS	39
INFORMATION ON THE GINI PROJECT.....	43





Abstract

This paper studies the relationship between income inequality, a macro-level characteristic, and solidarity of Europeans. To this aim, solidarity is defined as the ‘willingness to contribute to the welfare of other people’. We rely on a theoretical idea according to which feelings of solidarity are derived from both affective and calculating considerations, and we test competing hypotheses relating the extent of income inequality to both motivations for solidarity. Using data from the 1999 European Values Study (EVS), we apply multilevel analysis for 26 European countries. Controlling for household income and for other relevant macro-level characteristics which possibly influence feelings of solidarity of Europeans in different countries, we find evidence that in more unequal countries people are less willing to take action to improve the living conditions of their fellow-countrymen. This is true for respondents living in both low- and high-income households. Following from our expectations derived from the literature, this finding furthermore suggests that, at least when measured in terms of ‘willingness to contribute to the welfare of other people’, feelings of solidarity seem to be influenced more strongly by affective, rather than by calculating considerations.

Keywords: solidarity, income inequality, social distance, human motives, Europe.





1. Introduction

The aim of this paper is to study how inequality within a country, in particular economic inequality, is related to solidarity in Europe. For this purpose, solidarity is defined as support for the welfare of other people. We argue that the idea of ‘welfare for others’ is a central characteristic of the concept of solidarity. In the literature, this core element of solidarity is however often poorly captured. Solidarity has, for instance, been confused with concepts like social cohesion, social trust, social capital and redistribution of resources through welfare arrangements. Although all these concepts say something about social relations, they do not provide ‘direct’ information on whether respondents are actually willing to actively promote the well-being of other people. Our first contribution to the literature is hence to bring conceptual clarity and look at a measure which captures more closely the general idea of solidarity – ‘willingness to contribute to the welfare of others’. More specifically, we look at solidarity in terms of support for the welfare of fellow countrymen: neighbors, older people, the sick and disabled, and immigrants.

Secondly and more substantially, we want to find out whether Europeans care for the welfare of their fellow citizens, and how this is influenced by societal characteristics. We are particularly interested in the relationship between economic inequality and solidarity, and we operationalize economic inequality in terms of within-country inequality of disposable household incomes. Given recent attention for the negative societal impact of growing inequalities (e.g. OECD, 2008; Wilkinson & Pickett, 2009), it is important to study solidarity in its own right, since solidarity potentially mediates the relationship between inequality and other societal outcomes, such as community life, support for the welfare state, health-related outcomes, educational performance or social mobility.

Thirdly, looking at the different motives of solidarity which are identified in the literature – affective and calculating considerations – we formulate competing hypotheses concerning the impact of inequality on solidarity. Although the ‘*The Spirit Level*’-debate (following the title of the much discussed book by Wilkinson and Pickett referred to in the previous paragraph) has drawn attention to the negative societal impact of inequality, this is not a universal truth accepted across the social sciences. Political philosophers on distributive justice, for instance, usually accept that societies are characterized by a certain amount of inequality, and think about the situations in which inequality should (not) be reduced, and about ‘just’ ways to reduce ‘extreme or ‘unearned’ inequality and/or to ensure that the least-well off can lead a decent life (related to, but not identical to equality of outcomes) or have equal ‘starting chances’ (equality of opportunities) (for an overview, see e.g. De Beer & Pekelharing, 2006; Nozick, 1974; Rawls, 1971). Likewise, in economic research there is much debate on whether income inequality and trends in inequality foster or hinder economic growth, and is hence a ‘good’ or a ‘bad’ thing. Recent empiri-

cal research however seems to contradict the conventional economic wisdom that more income inequality fosters aggregate savings, capital accumulation and hence, growth (for a review, see Thorbecke & Charumilind, 2002).

We start this paper with a literature review, in which we formulate a number of hypotheses concerning the impact of income inequality on feelings of solidarity in Europe. We also pay attention to the fact that in order to establish a ‘genuine’ association between income inequality and solidarity, a number of alternative explanations which might give rise to this association have to be ruled out. Next, we discuss the data and methods. Given our interest in the impact of income inequality, a country-level characteristic, on feelings of solidarity, we estimate multi-level models. After presenting our empirical results, we conclude with a discussion and some avenues for future research.



2. Theoretical considerations

2.1. What is solidarity (not)?

Solidarity can generally be defined as the willingness to promote the welfare of other people¹. The motives behind solidarity are disputed, but a distinction is made between calculating and affective considerations (De Beer & Koster, 2009). Solidarity is based on calculating considerations when people help others because they want to improve their own welfare and hence receive (in)direct benefits in return. Calculating solidarity is also referred to as ‘enlightened self-interest’ or ‘weak reciprocity’, as it involves an understanding that one can maximize one’s own well-being by improving that of others (Baldwin, 1990; Bowles & Gintis, 2000; De Swaan, 1988; Hechter, 1987; Stjernø, 2004). From this perspective, people help others not because they sincerely care for them but because it indirectly improves their own well-being, or because their own well-being is jeopardized by the plight of others. These benefits can furthermore be material or immaterial. For instance, in a classic text Gans (1972) points out how the existence of poverty can be ‘functional’ in the sense that it provides the non-poor with a whole range of material and immaterial benefits, such as jobs (as social workers) or emotional satisfaction (by blaming the ‘undeserving’ poor for their misery and feeling ‘altruistic’ or ‘Christian’ for helping them regardless). Note that the benefits of ‘helping other people’, in this instance the poor, are derived from (and hence help to legitimate) the existence of poverty in the first place. Changing the existing order to eradicate poverty would require a radical redistribution of income and power, and hence be dysfunctional for the non-poor, as such profound changes would decrease well-being for the latter group.

In case of affective considerations people act upon feelings of sympathy and moral duty. From this perspective, people are motivated to contribute to the welfare of others out of genuine concern for them (Rodger, 2003; Titmuss, 1976) or because they think helping others is the morally ‘right thing to do’ (Schokkaert, 2006). Moreover, people might also show solidarity out of gratitude and a sense of fairness – a wish to do something in return for (vaguely determined) past, present or future favors they have received or will receive from other people. Bowles & Gintis (2000) refer to this form of reciprocity, which is conditional on feelings of ‘fairness’, as ‘strong reciprocity’. Note that the difference between affective and calculating considerations is delicate. It is often mistakenly assumed that affective considerations are somehow non-rational. In this paper, we draw upon the idea that people try to do

¹ Other concepts – such as altruism and pro-social behavior – are also often used to express the same phenomenon. We will not go into the complex discussion about these concepts (for a discussion see e.g. De Beer & Koster, 2009; Kolm & Ythier, 2006). In the interest of clarity, we will use the term ‘solidarity’ throughout the paper.

the best they can according to their own subjective values and goals (Schokkaert, 2006). However, people value different things. They might value their own welfare and material well-being (calculating considerations) but they might also value fairness and moral ideals (affective considerations).

Considering the variety of motives for expressing solidarity discussed above, it is difficult to fully understand and even more difficult to accurately measure intentions behind solidarity. In this paper, however, we are mainly interested in the end-result – solidarity as an outcome, and how it is influenced by the level of economic inequality. We simply assume that when people promote the welfare of others, they do this because: a) they realize that their own well-being will improve or will be protected when they support the welfare of others (i.e. calculating solidarity); and/or b) they feel affectively and morally engaged to do so (i.e. affective solidarity). Similarly, when people do not promote the welfare of others then this is because: a) they do *not* feel that their own well-being will benefit when they would support the welfare of others; and b) they do *not* feel affectively and morally engaged to do so.

Solidarity is sometimes confused with concepts like social cohesion (coherence or unity of a group) and social capital (broadly referring to the benefits resulting from social relations between people) (De Beer & Koster, 2009). These concepts have been empirically captured with a diverse set of indicators – frequency and quality of contacts with neighbors, social trust, informal sociability (e.g. visiting friends), participation in organizations, public engagement (e.g. voting), tolerance, voluntary work and so forth (Lancee & Dronkers, 2011; Tolsma, Van der Meer, & Gesthuizen, 2009). As Putnam has noted however, doing good for people is not part of the definition of social capital (2000: 117). Activities like voluntary work are often engaged in by people in order to pursue personal goals related to for instance self-fulfillment, or as activities that are simply pleasant to do in company (De Beer & Koster, 2009). Hence, in the same line of reasoning, these supposed measures of social capital do not directly inform us about feelings of solidarity, i.e. concern for the well-being and welfare of others.

The concept of solidarity is furthermore sometimes measured in terms of welfare state generosity (Alesina, Glaeser, & Sacerdote, 2001), or as public support for welfare state redistribution (Banting, Soroka, & Johnston, 2007). Indeed, the welfare state can be seen as a form of formal solidarity on a larger scale, again incorporating elements of both affective and calculating solidarity. On the one hand, the welfare state might reflect feelings of concern and care towards other members of society, derived from a striving for the ‘common good’ (Titmuss, 1970). On the other hand, support for the welfare state can be explained by calculating considerations (De Swaan, 1988). People might realize that they can improve their own well-being by ensuring that generous benefits are available to them in times of need, or by improving the living conditions of others. It has for instance been argued that the well-off have a self-interested incentive to contribute to welfare programs in order to protect themselves



from dangers that potentially emerge from having a large part of the population living in poverty (diseases, crime, social problems) (De Swaan, 1988).

Although the welfare state is often regarded as an expression of solidarity, neither welfare state generosity nor public support for redistribution are direct measures of feelings of solidarity. As indicated in the previous paragraph, support for the welfare state can, but does not necessarily have to mean that people support the welfare of *other* people. For instance, based on the so-called median voter-theorem put forward by Meltzer and Richard (1981), people consider only their own direct material returns when deciding how much government redistribution they prefer, without putting any thought to the consequences this has for other people. Meltzer and Richard rely on a classical economic perspective according to which people are selfish, and self-interest is narrowly understood in terms of direct economic returns. Thus, when we use a variable such as ‘welfare state generosity’ or ‘support for redistribution’, it is even more difficult to distinguish between interest in the welfare of others (either because people care or because they see other people’s welfare as contributing to their own welfare) and interest in promoting one’s own narrow economic self-interest (in terms of ensuring that one will receive decent state benefits in times of need). In this paper we therefore use a more direct indicator of solidarity: the willingness to contribute to the welfare of other people.

2.2. Income inequality and solidarity

In this paper, we are particularly interested in the relationship between income inequality and solidarity, operationalized in terms of a more ‘direct’ indicator referring to affective solidarity (care and concern) and calculating solidarity (own interests). We already discussed the difficulties with using ‘support for redistribution’ as a measure of solidarity. Besides solidarity (support for the welfare of others), this measure also captures another element – direct material interest which does not include the welfare of others – and it is difficult to distinguish between the two. We know from the Meltzer and Richard-model (1981) that when inequality increases, it becomes materially more beneficial for the majority of the population to support redistribution. Researchers however find inconsistent evidence and therefore often doubt the ‘empirical utility’ of the Meltzer-Richard model (Kenworthy & McCall, 2008; Lübker, 2007). We argue that there is no reason to doubt the Meltzer and Richard model in its prediction that when market inequality is higher there will be more people for whom redistribution will become beneficial in terms of immediate material returns. However, there is reason to doubt the idea that income inequality is only *directly* related to higher levels of support for redistribution. The reason for this is that support for redistribution does not solely depend on direct material returns, but also on other considerations, including feelings of solidarity

(Bowles & Gintis, 2000; Kangas, 1997; Mau, 2004; van Oorschot, 2006; van Oorschot, Opielka, & Pfau-Effinger, 2008). More attention for ‘solidarity’ as a mediating concept between macro-level characteristics of societies – such as the extent of income inequality – on the one hand, and welfare state generosity or support for redistribution on the other hand, might thus shed some light on the often unclear empirical findings in studies on attitudes towards welfare state redistribution. In this paper, we therefore focus first and foremost on the ‘unknown’, i.e. solidarity as the dependent variable.

We conclude from the literature that while income inequality should have a negative effect on affective solidarity (see later in this section), the effect on calculating solidarity (here defined in terms of enlightened self-interest) is difficult to theorize. From the literature, there are arguments that lead us to hypothesize a positive effect of higher inequality on calculating solidarity. We already referred to the fact that income inequality might be perceived as a negative development by both the better-off and the less-well-off, as high inequality might lead to negative externalities such as social tensions, crime, feelings of insecurity and even political instability (for an overview see Neckerman & Torche, 2007). Indeed, the economic literature has shown that inequality negatively affects economic growth through political instability and uncertainty about property rights (Thorbecke & Charumilind, 2002). Although this type of study is usually based on a sample of both developed and developing countries, we argue that our sample is varied enough (including the former Communist countries which experienced significant transitions on many domains) to expect a positive effect of income inequality on calculating feelings of solidarity.

We could furthermore also refer to the somewhat old-fashioned idea in sociology that a certain amount of inequality seems to be ‘normal’ or ‘necessary’ in order for the complex division of labor in modern societies to function efficiently (Krueger, 2008; Lenski, 2008). Durkheim for instance pointed out *‘that in a fully developed organic society, characterized by individualism, equal opportunity, specialization and interdependence, inequality is to be expected because at this point in evolution it should be based on differences in the internal abilities of individuals’* (Sernau, 2011: 201). However, there also seems to be a general consensus in handbooks on social inequality that although ‘each society knows a certain amount of inequality’ (although they all state in a following sentence that inequality is definitely not a necessary condition for the survival of society), too much inequality is harmful (e.g. Krueger, 2008). Leaving the question about ‘how much inequality is too much?’ aside, as there is no scientific answer to this, we could hypothesize that, as far as people are aware of the interdependencies characteristic for modern societies (for instance, employers realizing that their employees can only be productive when they are decently rewarded), a higher level of inequality should be related to a higher willingness to help other people. This leads to the following hypothesis: *there is a positive relationship between income inequality and calculating*



solidarity towards fellow countrymen (Hypothesis 1a). Note that this positive effect is based on the assumption that people actually realize the negative externalities originating from more inequality. To the extent that this is not true, the expected positive effect becomes weaker or even non-existent. As we will see further down, this has implications for the ‘total’ expected effect of income inequality on the ‘willingness to help other people’. Because of data restrictions, we are however not able to separate calculating from affective expressions and measures of solidarity.

Next we argue that *income inequality is likely to weaken affective considerations that motivate people to promote the welfare of others – concern and moral duty (Hypothesis 1b)*. A point made by, among others, Wilkinson and Pickett (2009) is that the negative impact of income inequality on societal outcomes not only runs through absolute higher and/or lower individual or household incomes, but that there is also a *relative* effect of income inequality. Thus, it is the fact that people are *relatively more unequal* to each other that matters, above and beyond the impact that can normally be attributed to a higher dispersion of absolute incomes in unequal societies. In more unequal societies, comparing one’s self to other people leads to higher levels of anxiety, lower levels of security and self-esteem, and more status competition, ultimately resulting in larger social distances between people.

Several studies have established that social distance in terms of ethnic, linguistic or religious diversity weakens social bonds (Alesina et al., 2001; Putnam, 2000; Schubert & Tweed, 2004). We argue that income inequality can be viewed as a source of differentiation and social distance. Income equality means that people are similar in terms of economic conditions and can afford similar life-styles, whereas income inequality means that conditions and life-styles of people differ and results in economic segregation (Neckerman & Torche, 2007). Social experiments furthermore show that conditions that reduce social distance (e.g. communication among participants prior to the game in order to establish a contact) lead to higher and more sustained levels of generosity and cooperation (Hoffman, McCabe, & Smith, 1996). In unequal societies there are more people ‘unlike you’, which makes it more difficult for people to identify with and relate to one another. Resemblance and similarity, and the experience of a ‘common fate’ are necessary foundations of solidarity (Baldwin, 1990; Materia, Rossi, & Guasticchi, 2005). People are less inclined to share resources with those who are different and with whom they have weak ties. Larsen (2008) suggests that a society that allows the poorer people to continue an ‘ordinary’ lifestyle reduces the risk of stigmatizing the poor and unemployed citizens. Furthermore, according to Wright (2000), income inequality fractures communities, generates envy and resentment, and makes social solidarity more precarious. Thus inequality divides a society and poisons relationships between social groups and people.

Furthermore, inequality also creates physical distance between neighborhoods, schools, workplaces and so forth (Neckerman & Torche, 2007). As described by Rothstein and Uslaner (2005), people in a country with high inequality (such as Brazil) may live in the same country, but their lives do not intersect. Their children go to different schools, they use different health care services, and so forth. In societies with higher equality (such as the Nordic countries) however, the unemployed use the same childcare facilities, schools, hospitals, nursing homes as the more well-off citizens. In unequal societies the rich are better shielded from the poor by living in segregated neighborhoods, or even gated communities. A fundamental base for social bonds and community spirit is face-to-face interaction and intersection of lives. When the rich and the poor are distant from one another and do not interact on daily basis, then according to Rodger (2003), genuine empathy towards other people decreases. Therefore, it can be argued that economic inequality creates heterogeneity of life styles together with mental and physical distance among social groups, which in turn undermines the motivational basis for reaching out for those in need. Both social and physical distances make it more difficult for people to sympathize and feel morally engaged to help others. Distance and lack of contact lead to a decline of trust, empathy and community spirit – all conditions that weaken the motivation to help others.

Finally, we already mentioned that data restrictions do not allow us to directly measure affective and calculating feelings of solidarity. The European Values Study (EVS) does ask respondents about their motivations to help other people, but this information is only available for those respondents who indicate that they are willing to help other people. From the above literature review, it is however possible to derive a hypothesis concerning the ‘total’ effect of income inequality on the willingness to contribute to the welfare of other people. We already noted that the positive effect of income inequality on calculating feelings of solidarity presupposes that respondents are actually able to *recognize* that their well-being is partly dependent on other people’s welfare. This is however quite a strong assumption to make, as this is actually rendered more difficult because of the mental, social and physical distance that also follows from more income inequality. In other words, we argue that as inequality becomes larger, the decline in affective solidarity dampens the positive effect of inequality on calculating feelings of solidarity. Therefore, we could say that the ‘relative weight’ of calculating considerations of solidarity will become smaller as the negative effect of mental, social and physical distance on affective solidarity increases. We thus hypothesize that *the ‘overall’ effect of income inequality on the propensity to promote the welfare of other people will be negative (Hypothesis 1c)*. Note that a negative effect of income inequality on solidarity is also consistent with a different interpretation, i.e. that even though people are able to recognize the benefits to their own welfare from helping others, affective considerations are simply more important in determining solidarity than calculating con-



siderations. For the purpose of this paper however, distinguishing between these different interpretations is less important than demonstrating a negative effect of income inequality.

2.3. Controlling for alternative explanations

Lastly, for our arguments to hold, we have to ensure that the relationship between income inequality and solidarity does not arise because of alternative explanations. For instance, it has been argued that ‘hard times lead to hard hearts’: as people experience more economic hardship they become more concerned about their own material conditions, and less considerate of other people. People living in affluence can afford to take care of others. Therefore, solidarity may be lower in unequal countries simply because a larger part of the population holds fewer resources (i.e. a compositional effect). Firstly, to account for resources on the individual level, we investigate whether the hypothesized negative effect of income inequality (derived in *Hypothesis 1c*) holds for both the wealthier respondents and the respondents with a lower household income. Hence our sub-hypothesis: *Higher income inequality is related to a lower level of solidarity, despite the level of resources people hold (Hypothesis 2a)*. Secondly, to account for the level of economic resources at the country-level, we control for GDP per capita. Our second sub-hypothesis is hence as follows: *Higher income inequality is related to a lower level of solidarity, controlling for differences in economic affluence between countries (Hypothesis 2b)*. As mentioned in the introduction, estimating the impact of both individual-level and country-level determinants of solidarity requires a multi-level model.

Feelings of solidarity could also depend on the generosity displayed by the welfare state (van Oorschot, 2006). A common critique of the welfare state is that it has unintended negative social and moral consequences. It has been argued that social expenditure ‘crowds out’ informal caring for other people as the responsibility of caring is taken over by the state (van Oorschot & Arts, 2005). Furthermore, solidarity may be lower in countries with generous welfare expenditure because people feel that they already help others by contributing a high proportion of their income (via taxes) to the welfare state. There might hence be a ceiling to how much people are willing to contribute to the welfare of others. On the other hand, social expenditure could also be positively related to solidarity. According to the ‘adjustment hypothesis’, a generous welfare state encourages people to feel generous and solidary (Jakobsen, 2009). From this perspective, national policy and people’s attitudes go hand in hand: a national ‘culture of solidarity’ towards the needy is positively associated with public support for collective responsibility (van Oorschot et al., 2008). We account for this ‘culture of solidarity’ and its potential association with income inequality by controlling for social expenditure as a proportion of total government expenditure. We propose a

third sub-hypothesis: *Higher income inequality is related to a lower level of solidarity, controlling for differences in social spending between countries (Hypothesis 2c).*

Finally, a number of individual-level characteristics might play a role in determining solidarity. Women, it is argued, adhere more to values of caring and mutual responsibility (Diekmann & Schneider, 2010). Older people can be expected to be more solidary than younger people – young people generally feel less moral obligation towards others (van Oorschot, 2002). Furthermore, older and retired people stand closer to and find it easier to associate with other older, sick and disabled people. Immigrants, however, are less likely to be solidary because they feel less related to the majority of the population. We also expect married people to have higher sense of responsibility towards other people. Educated people are believed to be more ‘enlightened’ (Hasenfeld & Rafferty, 1989) and might have developed a better understanding during their educational socialization of the functional and moral necessity to contribute to the common good (van Oorschot, 2002). Religiousness is associated with donating time and money to help the less fortunate (Scheepers & Te Grotenhuis, 2005). Others have suggested that giving and helping others is a ‘luxury’ (Banks & Tanner, 1997), hence we assume wealthier and employed people to be more solidary. We want to eliminate potential compositional between-country effects by controlling for all these individual-level variables. Hence, our fourth hypothesis: *Higher income inequality is related to a lower level of solidarity, controlling for differences in socio-economic characteristics between individuals (Hypothesis 2d).*



3. Methodology

3.1. Data

Data for this research are attained from the European Values Survey (EVS) 1999. In each country, face-to-face interviews were conducted among samples of adult citizens aged 18 years and older. 33 countries participated in the 1999 EVS. Due to data availability, we restricted our sample to the following 26 European countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain and Sweden. The 1999 EVS is the only currently available data set which allows for studying the ‘willingness to contribute to the welfare of others’, as well as people’s motivation to do so. In the latest EVS round in 2008 the questions about willingness to contribute to the welfare of others were not asked.

3.2. Variables

A descriptive summary of all variables is provided in Table 1. Our main *dependent variable* is solidarity. We define solidarity in terms of ‘willingness to improve the living conditions of other people’. We acknowledge that when asking about feelings of solidarity, one should specify towards *whom* solidarity is directed: people can be highly solidary with certain population groups and not at all with other groups. We thus analyze solidarity towards different groups of people, as implied by the following survey question: ‘Would you be prepared to actually do something to improve the conditions of: a) people in your neighborhood/community; b) elderly in your country; c) sick and disabled people in your country; d) immigrants in your country. Answers are measured on a Likert-scale: 1. Absolutely not; 2. No; 3. Maybe yes/maybe no; 4. Yes; 5. Absolutely yes.

Our central *explanatory variable* is income inequality in a country. We use the Gini-coefficient as a measure of income inequality. The Gini-coefficient is a widely used measure of income inequality that ranges from 0 (everyone has the same income) to 1 (one person owns all the income). We attain Gini-coefficients from the Standardized World Income Inequality Database (SWIID) (Solt, 2008-2009, 2009). SWIID provides comparable Gini-indices of net income inequality based on disposable household income and is hence well-suited for cross-national research.² We also include a number of *control variables* in our analyses. On the country-level, we control for economic

² We are interested in the level of income inequality (Gini) at the time of the interview – in 1999. For two countries inequality data were not available for 1999, and we used the next closest available Gini-coefficient, hence for Malta the data are from 2000 and for Iceland from 2004.

affluence in terms of GDP per capita³ and expenditure on social protection (% of GDP)⁴ (Eurostat, 2011). For an overview of country-level variables, see Appendix A. To account for potential population composition effects, we control for the following individual-level characteristics: gender, age, being retired or employed, being married, being an immigrant, religiousness (subjective measure of how important a person considers religion), education and income. Income is measured in terms of the relative household income of the respondent (ranging from 10% lowest to 10% highest).

Table 1. Descriptive statistics of variables used in the analyses.

	OBSERVATIONS	MEAN	STD. DEV.	MIN	MAX
<i>Dependent variables</i>					
Solidarity towards community	31547	3.52	0.87	1	5
Solidarity towards elderly	31394	3.70	0.84	1	5
Solidarity towards sick	31330	3.77	0.85	1	5
Solidarity towards immigrants	30980	2.91	0.98	1	5
<i>Independent variables</i>					
Female	32085	1.53	0.50	1	2
Age	32093	45.26	17.16	15	98
Retired	32093	0.23	0.42	0	1
Immigrant	32093	0.04	0.21	0	1
Religious	34739	2.50	1.05	1	4
Education	31803	4.47	2.12	1	8
Income	26651	4.83	2.58	1	10
Gini-coefficient	32093	28.09	3.92	22	36
GDP per capita (PPPs)	32093	97.68	45.39	26	238
Social expenditure (% of GDP)	32093	22.57	5.32	13	30.7

3.3. Methodological approach

Our main goal is to explain cross-country variation. Therefore, we estimate hierarchical linear random intercept regression models, accounting for the fact that individuals are nested within countries (Snijders & Bosker, 1999). This method helps us to distinguish between individual-level and societal-level effects on feelings of solidarity that people express.

³ The volume index of GDP per capita in Purchasing Power Standards (PPS) is expressed in relation to the European Union (EU-27) average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Data for all countries are from 1999.

⁴ Expenditure on social protection as a % of GDP contains: social benefits, administration costs and other expenditure. Data refer to 1999, except for Poland, Lithuania and Romania where the data are from 2000 and for Bulgaria, where data are from 2005.



4. Results

4.1. Measuring solidarity: a validity check

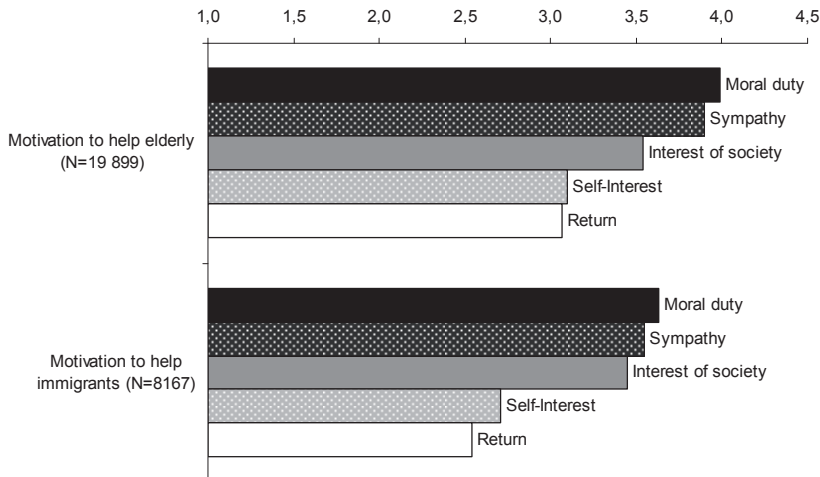
In this paper, solidarity is defined as the ‘willingness to help improve the welfare of fellow countrymen’. In the theoretical section we argued that solidarity is motivated by both affective and calculating considerations, and that it is difficult to separate them. Here, we demonstrate that our measure of solidarity indeed combines affective and calculating motives. Using the EVS-1999 data we look into the motivations underpinning solidarity. Respondents were first asked whether they are willing to contribute to the welfare of other people. Those respondents who answered that they are willing to help older people and immigrants (who said ‘absolutely yes’ or ‘yes’) were additionally asked what motivates them to do so. Remember that we consequently have no information for those respondents who indicated that they were *not* willing to help other people. Respondents were asked to evaluate different motivations. The ranking of these motives is presented in Figure 1.

It appears that Europeans evaluate moral duty and sympathy as the strongest motives to help older people and immigrants. General interest of society ranks somewhat lower. Self-interest and doing something in return are also part of people’s motivation to help older people and immigrants. Thus, both affective and calculating considerations determine people’s choice for promoting the welfare of others. However, affective considerations – moral duty and sympathy – come out as the stronger motivations behind solidarity. Therefore, solidarity appears to be more strongly dependent on affective rather than calculative considerations.

A problem with the analysis of motives is that we are restricted to a smaller number of countries, as the questions about motivation to help were not asked in Sweden, Ireland, Hungary and Malta. Another problem is that we are restricted to the motivations that respondents were asked to evaluate in the survey. Thus, people were not free to lay out their own reasons. Hence, we do not consider all other possible motivations that people may have for expressing solidarity. However, only 27 respondents did not consider any of these reasons important for helping older people, compared to 83 respondents for helping immigrants.⁵ This indicates that most respondents could relate to the motives that they were asked to evaluate. Moreover, a large proportion of people could relate strongly to some of these motivations. For instance, $\frac{3}{4}$ of respondents agreed that moral duty and sympathy are important motivations to help older people.

⁵ Respondents who answered ‘not so much’ or ‘not at all’ when asked to evaluate the importance of different motives to help others.

Figure 1. Evaluation of motives to help older people and immigrants (average scores on a scale 1-5).



4.2. Solidarity in Europe: some descriptive statistics

Now we explore how the level of solidarity differs among European countries. We look at solidarity towards members of the community, older people, the sick and disabled, and immigrants. Table 3 presents the proportion of respondents who indicate that they are prepared to actually do something to improve the living conditions of other people in their country (combines people who answered ‘absolutely yes’ and ‘yes’). People in Europe are, on average, most solidary towards the sick, disabled and older people, closely followed by members of the community. People are much less solidary towards immigrants. There are substantial cross-country differences in the proportion of respondents expressing solidarity. The percentage of people who are willing to contribute to the welfare of members of the community ranges from 22% in Lithuania to 73% in Ireland. Solidarity towards older people is expressed by 33% of people in Estonia, while at the same time 85% of Swedes are willing to contribute to older people’s welfare. The proportion of respondents who are willing to help the sick and disabled ranges from 36% in Lithuania to 88% in Sweden. Solidarity towards immigrants is in general much lower: only 4% of Lithuanian people expresses solidarity towards immigrants, while 68% is prepared to promote immigrants’ living conditions in Sweden. These figures illustrate the variance in solidarity between European countries. These percentages however do not take into account the composition of the population in terms of socio-demographic factors and should hence be studied cautiously. Furthermore, we also want to find out how cross-country differences are related to the level of income inequality in each country.



Table 3. Percentages of respondents in European countries who are willing to help their fellow-countrymen (people who answered 'absolutely yes' or 'yes')

	HELP COMMUNITY	HELP ELDERLY	HELP SICK AND DISABLED	HELP IMMIGRANTS
<i>European average</i>	54	63	67	26
Ireland	73	81	82	36
Slovakia	72	69	72	21
Austria	70	59	59	20
Netherlands	68	63	65	35
Sweden	68	85	88	68
Slovenia	66	65	71	28
Belgium	62	66	67	31
Luxembourg	61	58	64	41
Germany	61	53	50	22
Poland	56	68	72	16
Malta	56	77	82	27
Hungary	55	60	61	8
Spain	52	57	55	35
Iceland	51	73	83	35
Czech Republic	51	63	76	15
Italy	49	80	82	46
France	48	58	62	25
Romania	48	66	64	22
Denmark	47	67	70	30
Finland	45	71	73	23
Bulgaria	43	60	67	18
Greece	41	66	71	29
Great Britain	41	54	58	14
Estonia	34	33	40	9
Latvia	30	56	59	12
Lithuania	22	34	36	4

4.3. Multi-level analysis of solidarity

First, we look at the intra-class correlation (ICC), which shows us how much of the variance in solidarity is explained by the country-level (Table 4). As a first step, we estimate 'empty' models, and we conclude that countries indeed differ. The ICC ranges from 7-8% when we look at solidarity towards community members, older people and the sick and disabled. Concerning solidarity towards immigrants, the country-level variation is higher,

with a value for the ICC of 13%. We also want to ensure that the country-level variation is not solely explained by differences in population composition, and hence include individual-level variables as a second step. As can be seen from Table 4, there is still substantial variance left to be explained by the country-level. The ICC ranges from 7-9% for solidarity towards community members, older people and the sick and disabled, while it is again larger (14%) in case of solidarity towards immigrants.

Table 4. Intra-class correlation (ICC) for the 'empty' model and the model including individual-level characteristics.

DEPENDENT VARIABLE	EMPTY MODEL	MODEL INCLUDING INDIVIDUAL-LEVEL CHARACTERISTICS*
Help community members	0.08	0.09
Help elderly	0.07	0.07
Help sick and disabled	0.08	0.07
Help immigrants	0.13	0.14

* *Individual-level characteristics include: gender, age, being retired, being an immigrant, religiousness, education, income.*

Regarding the individual-level determinants, our results indicate that women, older, married and more religious people, but also wealthier and more educated respondents are in general more solidary. It is interesting to note that being employed is related to a higher level of solidarity towards older people. This indicates some intergenerational solidarity, but it could also reflect an awareness that employment contributes to earnings-related pensions. Being an immigrant increases the chances of feeling solidary towards immigrants. At the same time, being an immigrant decreases solidarity towards older people and the sick and disabled. This might be an indication that immigrants are not interested in contributing to the welfare of people who do not belong to the same ethnic group. We conclude that 'social distance' does matter – the closer people stand to others, the more likely they are to help them.

The main goal of our paper was to study the relationship between income inequality and solidarity towards fellow countrymen. Next to the potential effects of population composition, we also take account of other contextual factors that might be associated with both income inequality and solidarity: economic affluence (GDP per capita) and social expenditure (% from GDP). Our results show that the direction of the relationship between inequality and solidarity is negative – a higher extent of income inequality is related to lower levels of solidarity towards neighbors, older people and the sick and disabled (Table 5). This is in accordance with our expectations. In more unequal societies, people are significantly less likely to engage in improving the living conditions of members of the community, older people and the sick and disabled.



It could be that inequality is related to lower levels of solidarity only because the poor do not have enough resources to support others. However, if inequality also affects the wealthy then we can be more certain that the effect we find is not only a matter of the absolute level of resources that respondents command. Therefore, we check whether inequality reduces solidarity, independent of the income level. To illustrate this, we present the interaction effects between income inequality and respondents' household income in Figure 2. It appears that a higher level of income inequality is related to a lower level of solidarity among both high- and low- income groups (also see Appendix B). The interaction effect between economic inequality and high-/low-income group is significant in case of solidarity towards the elderly and the sick and disabled. We find that solidarity decreases more steeply among the poor as compared to the better-off. However, although the better off are less influenced by the level inequality, their solidarity towards older people and the sick and disabled remains negatively influenced by inequality. When we run the models separately for the better-off (belonging to the highest income groups: 7-10) then it appears that income inequality is still negatively related to solidarity (in case of solidarity towards sick and disabled the effect of the Gini-coefficient is significant on the 0.5 level, in case of older people the relationship is weaker – it is significant at the 0.1 level)⁶. Therefore, concerning solidarity towards older people and the sick and disabled, income inequality increases the gap between the wealthy and the poor.

To summarize, we find evidence that economic inequality is related to a lower level of solidarity, after controlling for: resources that individuals hold or that are available in a society as a whole, social expenditure, and different socio-economic characteristics of individuals. There is however one exception. Solidarity towards immigrants is not significantly related to inequality. The reason why we do not find an effect of inequality on solidarity towards immigrants could be that immigrants are by definition 'different' and hence people are less likely to be concerned by their welfare in all countries, notwithstanding the level of economic inequality. Instead, solidarity towards immigrants is related to economic affluence at the country-level. The more affluent a country, the more solidarity respondents express towards immigrants. Economic affluence also matters for solidarity towards members of the community – the wealthier a country, the more likely feelings of solidarity towards community members. Interestingly, social spending does not determine solidarity towards any of the social groups under consideration.

Note that one of the problems in the data was the large number of missing values for respondents' household income. We re-analyzed all models with leaving income out and found that substantially the results did not change – the direction of the relationship remained the same (results not presented here).

⁶ Results not presented here but available upon request.



Table 5. Determinants of solidarity towards community, elderly, sick and immigrants in Europe (multi-level random intercept regression models)

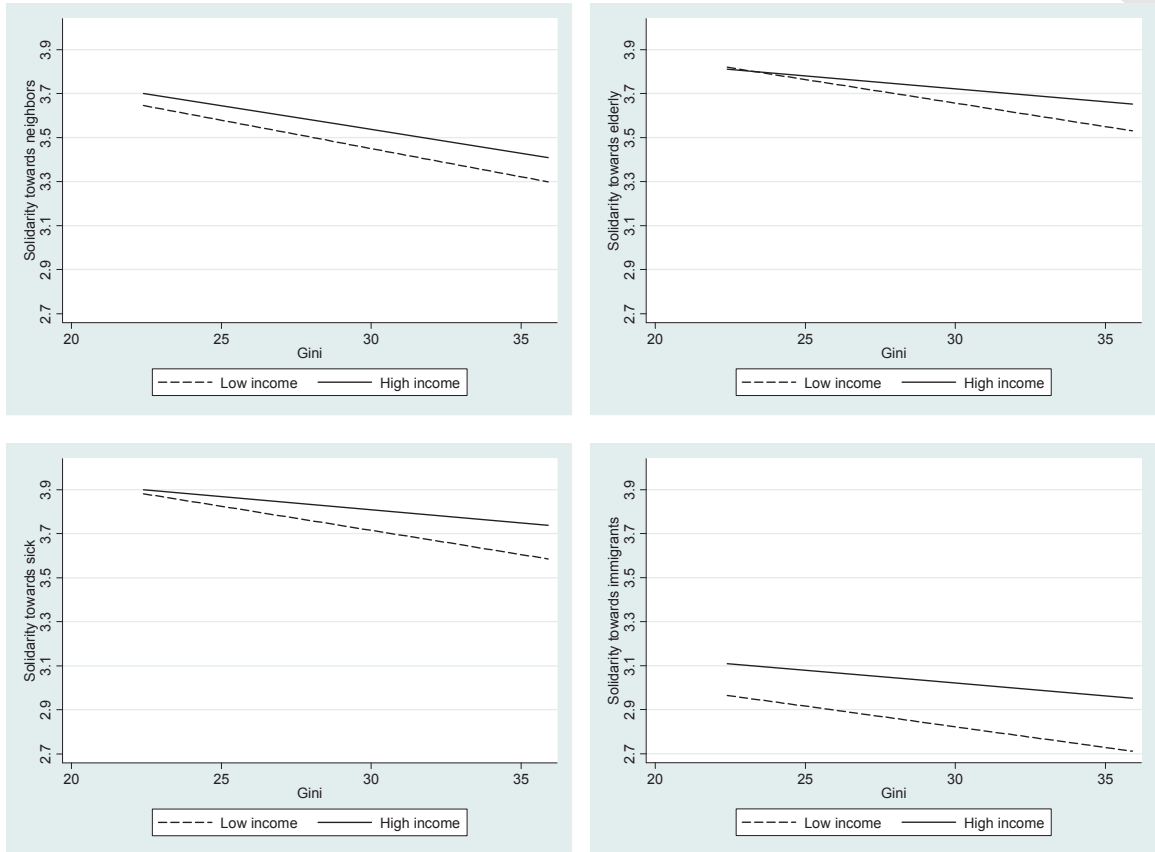
	<i>Community</i>	<i>Elderly</i>	<i>Sick</i>	<i>Immigrants</i>
Men (ref.= women)	-0.0384*** [0.0106]	-0.0619*** [0.0103]	-0.0455*** [0.0105]	-0.0409*** [0.0117]
Age	0.00281*** [0.000451]	0.00363*** [0.000439]	0.00147*** [0.000447]	-0.000204 [0.000496]
Married	0.108*** [0.0113]	0.0860*** [0.0110]	0.0593*** [0.0112]	0.0451*** [0.0124]
Employed	0.0158 [0.0138]	0.0311** [0.0134]	0.00592 [0.0136]	-0.00722 [0.0151]
Retired	-0.000174 [0.0199]	0.00812 [0.0194]	-0.00367 [0.0197]	-0.0336 [0.0219]
Immigrant	-0.0412 [0.0293]	-0.116*** [0.0285]	-0.151*** [0.0290]	0.371*** [0.0321]
Religiousness	0.0924*** [0.00560]	0.0892*** [0.00545]	0.0974*** [0.00555]	0.116*** [0.00617]
Education	0.0226*** [0.00277]	0.0131*** [0.00269]	0.0165*** [0.00274]	0.0683*** [0.00305]
Income	0.00802*** [0.00241]	0.00587** [0.00235]	0.00889*** [0.00239]	0.0115*** [0.00266]
Income inequality (Gini)	-0.0208(*) [0.0110]	-0.0198** [0.0101]	-0.0215** [0.0103]	-0.00933 [0.0142]
GDP per capita	0.00216** [0.00103]	0.00118 [0.000951]	0.00145 [0.000973]	0.00440*** [0.00134]
Social expenditure	0.00280 [0.00955]	-0.00222 [0.00879]	-0.00487 [0.00899]	0.00721 [0.0124]
Constant	3.283*** [0.421]	3.691*** [0.388]	3.912*** [0.396]	1.931*** [0.545]
Observations	25,734	25,633	25,586	25,325
Number of groups	26	26	26	26
Intra-class correlation (ICC)	0.06	0.05	0.05	0.08
-2 Log Likelihood	-31503	-30618	-31013	-33210

Standard errors in brackets

*** $p < 0.01$, ** $p < 0.05$, (*) $p < 0.1$



Figure 2. Interaction between inequality and income in relation to solidarity.







5. Conclusion and discussion

The aim of this paper was to study the impact of economic inequality on social solidarity in Europe. We defined solidarity in general terms as the willingness to promote the welfare of other people. We argued that the concept of solidarity has too often been mixed up with other concepts such as social cohesion, social trust, social capital and the redistribution of resources through welfare arrangements. Although these concepts, and their measures, say something about social relations, they do not capture the core idea of solidarity. We believe that our measure – ‘willingness to do something to improve the living conditions of other people’ – better reflects the concept of solidarity. We also believe that our research provides conceptual clarity, as solidarity might be an important mediating variable between the extent of inequality in a society and social outcomes such as support for welfare state redistribution. In fact, studying the impact of inequality on solidarity and linking our results to the so far mixed evidence concerning public support for the welfare state might well prove to shed some new light on earlier findings.

Furthermore, in defining solidarity we rely on a theoretical idea according to which solidarity is founded on affective (caring) and calculating (self-interested) considerations. We hypothesized that while inequality should have a positive effect on calculating solidarity (in line with the previously mentioned research on support for redistribution by the welfare state), the impact of on affective solidarity should be negative. Furthermore, as inequality rises and diminishes affective solidarity, the growing mental, social and physical distance between people limits their ability to ‘recognize’ the indirect benefits to themselves of helping other people, resulting in a ‘overall’ negative influence of inequality on our measure of solidarity. Although existing data do not allow us to distinguish properly between calculating and affective solidarity and hence to test all our hypotheses, our validity check (based on those respondents who indicate that they are willing to help) indicated that our measure of solidarity is indeed driven by mixed motivations: mainly feeling of moral duty and sympathy but also a wish to contribute to the societal good and to reciprocate with others, as well as self-interest.

We found that in general solidarity is higher towards people with whom there is less social distance – the sick and disabled, older people and community members. Solidarity is much lower towards immigrants. At the same time, we found that there is a notable variation between countries in how much solidarity they express. Most of this variation is explained by individual-level characteristics. Women, older respondents, married and religious people, but also more educated and wealthier people tend to express more solidarity.

Societal conditions also matter. We were particularly interested in the relationship between income inequality and solidarity in Europe. We found some evidence that income inequality is negatively related with solidarity. The more inequality, the less people are willing to make a contribution to improve the living conditions of others in their community, of older people and of the sick and disabled. Somewhat surprising, income inequality was not significantly related to feelings of solidarity towards immigrants – here, the level of economic affluence seems to matter more. Perhaps our ‘non-result’ can be explained by the fact that solidarity towards immigrants is already very low in all countries. Furthermore, the reason why inequality should reduce solidarity is the increasing social distance. Since immigrants are already distant to the majority of the population, rising inequality does not add much to this distance.

Our results are generally in accordance with what we expected. Although it was empirically not possible to make a distinction between affective and calculating motives, we expected income inequality to be negatively related to solidarity. We argued that although inequality might increase calculating solidarity, it is the effect on affective solidarity that is more straightforward and more persistent. People might not necessarily recognize or believe that they could improve their own well-being by improving the welfare of others. The social distance that arises from inequality is much more easily recognizable and therefore has a more straightforward consequence in reducing solidarity towards fellow-countrymen. In fact, we showed empirically that people are indeed more motivated by affective considerations (moral duty and sympathy) to help others. Therefore, it is not surprising that when inequality increases, ‘overall’ solidarity suffers. The reason why the negative association between inequality and solidarity is not very strong could be explained by the fact that different motives (affective and calculative) push people towards different directions. Furthermore, we showed that the negative relationship between income inequality and solidarity remained after controlling for individual resources and economic affluence in a society. Also, we found that not only the poor, but also the wealthy become less solidary in unequal societies.

The finding that income inequality reduces solidarity towards fellow countrymen is relevant from different perspectives. It suggests that when economic disparities become larger and there are relatively more people in need, solidarity decreases. This finding is furthermore potentially relevant for the literature on public support for redistribution. It is generally accepted that support for redistribution is determined by material and solidaristic considerations. We know from the Meltzer and Richard (1981) model that income inequality should increase the direct financial incentive to support redistribution. At the same time, we show here that inequality decreases solidarity. Therefore, two important determinants of support for redistribution – direct material returns and solidarity – are moving in opposite directions. This might explain why empirical papers find inconsistent results when studying

the relationship between income inequality and support for redistribution (Finseraas, 2009; Kenworthy & McCall, 2008; Lübker, 2007). It might be that while there is a material incentive to support redistribution, people are less fond of the idea to share resources with their fellow-countrymen. Particularly the well-off who do not receive direct material benefits from the welfare state are more likely to support the system out of solidarity considerations. Thus, the fact that inequality reduces solidarity among the well-off might be particularly important when we think of support for redistribution and collective welfare arrangements. Therefore our paper points to a general need to pay more attention to different human motives. Support for redistribution clearly combines two important and yet different motivational aspects – purely material and affective considerations. Given our difficulties to disentangle these effects with existing survey data, questionnaire designers might want to identify better questions in order to separate affective and calculating motives of solidarity.

Lastly, we cannot ignore the possibility that causality is reversed. So far we argued that increasing income inequality weakens solidarity towards fellow country-men. However, it might also be true that in countries where people feel less solidary towards their fellow-countrymen, inequality is more likely to emerge and persist. We cannot exclude this option. However, our goal was to test the theoretical idea that social distance in the form of economic disparity would be related to a lower level of solidarity. We find evidence that the relationship runs in the expected direction. Therefore, further research is needed to test the direction of causality. However, as others have suggested (Bénabou & Tirole, 2006), we believe that the causality runs in both directions.





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Appendices

Appendix A

Table A.1. Macro data in 1999 (or the closest year where data was attainable – year exception indicated in brackets)

COUNTRY	N	GINI	GDP PER CAPITA	SOCIAL EXPENDITURE
Austria	1522	25.9	132	29
Belgium	1905	26.8	123	26.4
Bulgaria	1000	25.1	28	15.1 (2005)
Check Republic	1902	25.2	72	18.6
Denmark	1023	22.4	131	29.8
Estonia	1005	35.9	43	15.4
Finland	1017	23.8	115	26.3
France	1615	26.8	115	29.9
Germany	2034	26.5	121	29.5
Great Britain	971	34.7	118	25.7
Greece	1111	33.6	83	22.7
Hungary	997	29.2	54	20.6
Iceland	968	24.6 (2004)	139	18.8
Ireland	986	32.1	127	14.5
Italy	2000	33.7	118	24.8
Latvia	1013	32.2	36	17.2
Lithuania	1018	32.7	39	15.7 (2000)
Luxembourg	1211	26.3	238	20.5
Malta	1002	30 (2000)	81	17.8
Netherlands	1002	23.1	131	27.1
Poland	1095	28.9	49	19.7 (2000)
Romania	1146	27.3	26	13 (2000)
Slovakia	1331	23.7	51	20.2
Slovenia	1004	24.9	81	24
Spain	1200	33.7	96	19.8
Sweden	1015	23.3	126	30.7

Appendix B

Table B.1. Interaction between inequality and income in determining solidarity

	COMMUNITY	ELDERLY	SICK	IMMIGRANTS
Men (ref.= women)	-0.0384*** [0.0106]	-0.0623*** [0.0103]	-0.0459*** [0.0105]	-0.0409*** [0.0117]
Age	0.00282*** [0.000452]	0.00369*** [0.000439]	0.00152*** [0.000447]	-0.000202 [0.000496]
Married	0.108*** [0.0113]	0.0877*** [0.0110]	0.0608*** [0.0112]	0.0451*** [0.0124]
Employed	0.0158 [0.0138]	0.0312** [0.0134]	0.00594 [0.0136]	-0.00722 [0.0151]
Retired	-0.000538 [0.0199]	0.00534 [0.0194]	-0.00623 [0.0197]	-0.0337 [0.0219]
Immigrant	-0.0411 [0.0293]	-0.115*** [0.0285]	-0.150*** [0.0290]	0.371*** [0.0321]
Religiousness	0.0924*** [0.00560]	0.0891*** [0.00545]	0.0974*** [0.00555]	0.116*** [0.00617]
Education	0.0225*** [0.00277]	0.0127*** [0.00270]	0.0161*** [0.00275]	0.0683*** [0.00305]
Income	0.00158 [0.0150]	-0.0441*** [0.0145]	-0.0367** [0.0148]	0.00985 [0.0165]
Income inequality (Gini)	-0.0219(*) [0.0113]	-0.0289*** [0.0103]	-0.0298*** [0.0106]	-0.00962 [0.0145]
GDP per capita	0.00216** [0.00103]	0.00115 [0.000943]	0.00142 [0.000965]	0.00440*** [0.00134]
Social expenditure	0.00281 [0.00955]	-0.00215 [0.00871]	-0.00480 [0.00891]	0.00721 [0.0124]
Gini*Income	0.000234 [0.000536]	0.00181*** [0.000521]	0.00166*** [0.000530]	5.87e-05 [0.000589]
Constant	3.316*** [0.428]	3.943*** [0.391]	4.142*** [0.400]	1.939*** [0.551]
Observations	25,734	25,633	25,586	25,325
Number of groups	26	26	26	26
-2 Log Likelihood	-31502	-30612	-31008	-33210

Standard errors in brackets

*** $p < 0.01$, ** $p < 0.05$, (*) $p < 0.1$



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Information on the GINI project

Aims

The core objective of GINI is to deliver important new answers to questions of great interest to European societies: What are the social, cultural and political impacts that increasing inequalities in income, wealth and education may have? For the answers, GINI combines an interdisciplinary analysis that draws on economics, sociology, political science and health studies, with improved methodologies, uniform measurement, wide country coverage, a clear policy dimension and broad dissemination.

Methodologically, GINI aims to:

- exploit differences between and within 29 countries in inequality levels and trends for understanding the impacts and teasing out implications for policy and institutions,
- elaborate on the effects of both individual distributional positions and aggregate inequalities, and
- allow for feedback from impacts to inequality in a two-way causality approach.

The project operates in a framework of policy-oriented debate and international comparisons across all EU countries (except Cyprus and Malta), the USA, Japan, Canada and Australia.

Inequality Impacts and Analysis

Social impacts of inequality include educational access and achievement, individual employment opportunities and labour market behaviour, household joblessness, living standards and deprivation, family and household formation/breakdown, housing and intergenerational social mobility, individual health and life expectancy, and social cohesion versus polarisation. Underlying long-term trends, the economic cycle and the current financial and economic crisis will be incorporated. Politico-cultural impacts investigated are: Do increasing income/educational inequalities widen cultural and political 'distances', alienating people from politics, globalisation and European integration? Do they affect individuals' participation and general social trust? Is acceptance of inequality and policies of redistribution affected by inequality itself? What effects do political systems (coalitions/winner-takes-all) have? Finally, it focuses on costs and benefits of policies limiting income inequality and its efficiency for mitigating other inequalities (health, housing, education and opportunity), and addresses the question what contributions policy making itself may have made to the growth of inequalities.

Support and Activities

The project receives EU research support to the amount of Euro 2.7 million. The work will result in four main reports and a final report, some 70 discussion papers and 29 country reports. The start of the project is 1 February 2010 for a three-year period. Detailed information can be found on the website.

www.gini-research.org





GINI GROWING INEQUALITIES' IMPACTS

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Project funded under the
Socio-Economic sciences
and Humanities theme.