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On changes in general trust in Europe

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Abstract

This paper analyses the determinants of trust in a pool of 33 European countries over the period 2002-2010. We find that income inequality is negatively related with trust when we analyse pooled data of individuals, which is a well established result if one focuses on cross-country differences. But, this relation vanishes when we estimate a fixed effects model with the data collapsed by country and year. *Omitted variables* may account for the significant and negative relationship between economic inequality and trust at the cross-sectional level. In contrast, we find a sizeable, negative and significant effect of the share of persons from minority ethnic groups on trust. This result is found in different specifications for the trust index and distribution of trust.

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1. Introduction

As pointed by Durlauf (2002), there has been a growing interest in social sciences in exploring the role of social capital as a mediator of socio-economic outcomes. One of the components of social capital that has received a great deal of attention is general trust, which is generally measured by the responses of individual to surveys of values and attitudes around the world. There are important differences in trust among countries and well known regional differences. For example, the Nordic countries display higher levels of trust than other European countries and the US. In turn, individuals from some developing countries are less trusting than individuals from European societies and other developed countries.

These differences in trust have led to the emergence of attempts to explain what leads individuals from different countries, or regions within a country, to vary in their trust levels. Among the explanations that one finds in the empirical literature is that trust is negatively associated with measures of income inequality like the Gini coefficient. Examples are in Knack and Keefer (1997), Uslaner (2002), Zak and Knack (2001), Knack and Zak (2002), Leigh (2006a), Bjørnskov (2007), Rothstein and Uslaner (2005), Berggren and Jordahl (2006), Rothstein and Uslaner (2005), Uslaner and Brown (2005), Fisher and Torgler (2013), Jordahl (2009) and Gustavsson and Jordahl (2008). Most of these studies rely on analyses of cross-sections of countries, so that *omitted variable* problems could be present. This means that income inequality might not be the variable really explaining the different levels of trust observed. These differences could be explained by institutional and cultural characteristics of the countries which are generally omitted in cross-sectional analyses. An exception is Gustavsson and Jordahl (2008) who use a panel data of Swedish counties and instrumental variables to uncover a negative relation between trust and an inequality measure focused on differences in income on the bottom half of the income distribution (ratio P50-10).

Wilkinson and Picket's (2010) *The Spirit Level* and the replies it has provoked (e.g. Sunders, 2010) have contributed to making the idea that trust, among other measures of social cohesion is hindered by the growing levels of income inequality. An assessment of such claims will require a closer look at the data and methods employed in establishing the link between income inequality and trust. The cross-country studies previously mentioned are prominent in the literature on trust, but they do not directly address the issue of the determinants of changes in trust, and therefore it is hard to establish a precise role of income inequality as one of those determinants. The aim of this paper is to study the determinants of general trust taking into account variation over time and country. In this way, we try to assess whether growing income inequality, as is widely claimed, has an effect on the formation of trust.

This paper differs from the existing empirical literature in several respects. We use a harmonized dataset composed of the five waves of the European Social Survey (ESS) carried out between 2002 and 2010, which comprises a total of 33 countries and about 200,000 individuals. We first explore the determinants of general trust with a pooled sample trying to account for all possible country and time effects that can bias the results and using the controls routinely employed in the empirical literature. We then construct a panel dataset by aggregating the variables of interest in the ESS by country. So, this panel dataset comprises countries that can be followed over time. The characteristics of these countries are constructed by averaging the values of individuals in each country. This strategy allows us to overcome the main data limitations and assess more properly the role of changing inequality in the formation of trust. Furthermore, we consider the Gini coefficient of net incomes as the measure of income inequality; and alternatively we also use the Gini computed with market incomes as a robustness check.

Our results with pooled data indicate that income inequality is negatively associated with trust under different specifications, even in a demanding structural estimation that considers country, time and country-time specific effects. Contrary to these results, the fixed effects estimator employed in the panel fails to reveal any significant relation between income inequality and trust under different specifications. This result is robust irrespective of whether we focus on the average level of trust in a country or different aspects of the distribution of this score. Only a small number of variables in the panel data are significantly related to trust . GDP per capita and the proportion of ethnic minorities in the country affect trust positively and negatively, respectively, at traditional levels of significance. This is line with the findings of other studies that give a more important role to the ethnic fractionalization of the country in explaining differences of trust. These include Knack and Keefer (1997), Leigh (2006b), Gustavsson and Jordahl (2008), Alesina and La Ferrara (2002) and Putman (2007). This may be interpreted as indicating that ethnic or racial homogeneity in a country leads to people to trust more. Other studies that find a positive role for GDP growth or GDP per capita in the formation of trust are Durlauf and Fafchamps (2004), Zak and Knack (2001), Beugelsdijk et al (2004), Knack and Keefer (1997), Steijn and Lancee (2011) and Algan and Cahuc (2010).

Our results provide evidence that trust is not significantly related to income inequality in European countries once we account for fixed effects; which suggests that perhaps there are other country specific variables like institutions, culture, social preferences that affect trust. We capture these effects in the panel data by using a fixed effects estimator.

The paper is organized as follows. In the next section we describe the data to be used and some patterns of general trust across countries. The third section presents our modelling strategy and results from estimation with the pooled data. Section 4 presents the fixed effects estimates with panel data and section 5 concludes.

2. Data

We use the European Social Survey (ESS) which has five available bi-annual rounds implemented between 2002 and 2010. This survey is designed to measure attitudes, beliefs, values and behaviour patterns of individuals in Europe. Similar to other surveys on attitudes (e.g. the World Values Survey), the question measuring general trust is the following: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted". We use Gini coefficients from the Standardized World Income Inequality Database (SWIID) as our measure of income inequality (see Solt, 2009), because this − although not without its problems − provides the broadest coverage across countries and over time, allowing us to attain the largest number of observation points. The SWIID also provides Gini coefficients computed with incomes both before and after taxes and transfers. The other macro variable to be used in the analysis is real GDP per capita in PPP terms, taken from the World Development Indicators from the World Bank. The initial sample is composed of 117 country-year points and includes 223,048 observations with data on general trust and macro variables[1].

The data on general trust reveal a great deal of variability across countries and some changes over time. For example, the gross average score of all countries over the full period is about 4.8 in a scale running from 0 to 10. The countries with the highest and lowest scores are Denmark with 6.9 and Turkey with 2.6, respectively. Confirming anticipated regional variation, the Nordic countries display the highest levels of trust (see Figure 1).

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[1] This comprises a total of 33 countries that are the EU-27 plus Norway, Iceland, Russia, Turkey, Ukraine and Israel.

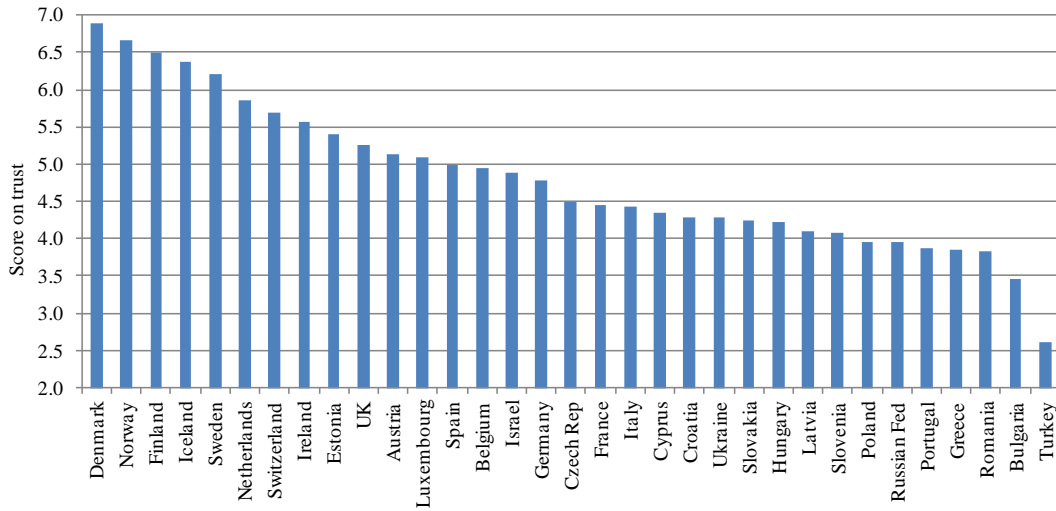**Figure 1: General trust by country, 2002-2010**

Figure 2 depicts a negative relation between trust and income inequality when we plot all the pairs of year and country points available. This result is well documented in other cross-country studies (e.g. Bjørnskov, 2007). Figure 3 plots the points of biannual variation of the score on trust and Gini for all the country-year points with available data. The relationship between changes in trust and Gini over time is also negative as in the case of cross-country variation, but it is weaker (correlation of only -0.1). The average score for trust shows interesting country variation but also hides important differences in the distribution of trust among countries. For instance, in the plots of Appendix A1 we show that the Nordic countries have a clear left skewed distribution of trust. In contrast, other countries such as Greece and Slovenia are characterised by a distribution skewed to the right, and many others have a normal type distribution of trust. All these exploratory statistics are insightful, but we still need to implement a more robust analysis with the inclusion of controls that allow us to investigate the changes of trust across countries and over time. This is done in the next section.

Figure 2: General trust and income inequality
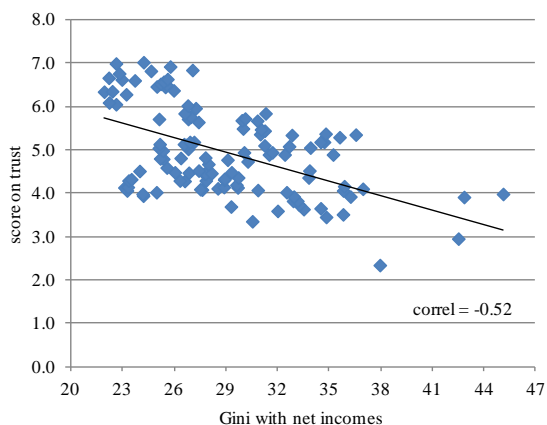
Figure 3: Changes in trust and income inequality (biannual periods)
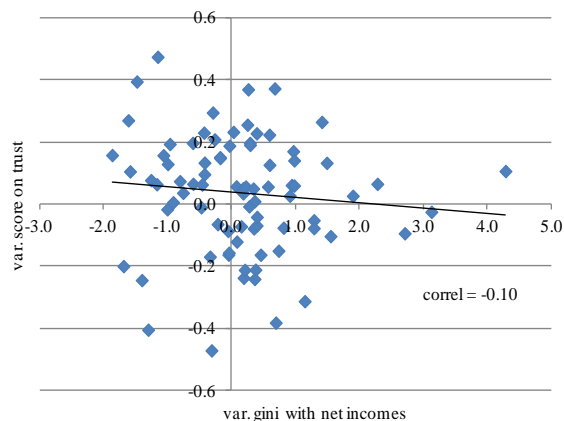
3. Empirical strategy

Our aim is to analyse the main determinants of general trust, and in particular assess the effects of income inequality on the level of trust. We rely on the individual responses drawn from five waves of the ESS taken between 2002 and 2010, which account for about 200,000 persons comprises in 33 countries. We are aware that this pooling of cross-sections prevents us from interpreting results as causal effects, but it is still worth exploring the strength of the effects of inequality after including a variety of controls. Nonetheless, we attempt to mitigate the effects of spurious trends and contemporaneous error correlations by employing a demanding estimation structure that considers country, time and country-time specific effects.

3.1 The baseline model

The dependent variable is the score from the question "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful and 10

means that most people can be trusted". For simplicity we will perform OLS estimations to the following specification:

$$y_{i,c,t} = \theta_c + \delta_t + \theta_c\delta_t + \beta X_{c,t} + \gamma Z_{i,c,t} + \varepsilon_{i,c,t} \qquad (1)$$

The subscripts i, c and t stand for individual, country and time, respectively. The model includes θ_c and δ_t to control for country and year fixed effects, which accounts for other country characteristics and general trends over time. The interactions between country and time effects ($\theta_c\delta_t$) control for shocks that are time and country specific. The vector $X_{c,t}$ contains the gini coefficient and GDP per capita (in logs) that are country and time specific. The vector $Z_{i,c,t}$ includes different controls at the individual level; and $\varepsilon_{i,c,t}$ is the error term. The estimations use robust standard errors clustered by country and year. The descriptive statistics are reported in table 1 and the OLS estimations are contained in tables 2 and 3.

Table 1: Descriptive statistics of pooled sample

Variables	2002		2004		2006		2008		2010		Total	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
trust	5.03	2.48	4.92	2.48	5.01	2.51	4.73	2.56	4.95	2.45	4.92	2.50
gini of net incomes	28.45	4.03	29.01	4.60	29.32	4.83	30.52	5.43	28.95	4.31	29.31	4.77
gini of pre-tax incomes	45.48	4.21	45.33	6.17	45.39	6.90	45.34	6.56	44.44	6.82	45.22	6.22
log gdp pc	10.23	0.34	10.12	0.50	10.12	0.49	10.09	0.40	10.14	0.34	10.14	0.43
communist	0.16	0.36	0.27	0.44	0.32	0.47	0.39	0.49	0.35	0.48	0.30	0.46
male	0.48	0.50	0.47	0.50	0.46	0.50	0.47	0.50	0.47	0.50	0.47	0.50
living with partner	0.63	0.48	0.62	0.49	0.63	0.48	0.63	0.48	0.62	0.49	0.62	0.48
age	45.35	18.04	45.44	18.22	46.30	18.32	46.20	18.24	47.58	18.55	46.12	18.28
age sq /100	23.82	17.49	23.96	17.62	24.79	17.88	24.67	17.84	26.08	18.35	24.61	17.84
isced: 1	0.15	0.36	0.17	0.37	0.13	0.33	0.14	0.35	0.13	0.34	0.15	0.35
isced: 2	0.24	0.43	0.21	0.41	0.20	0.40	0.20	0.40	0.17	0.38	0.20	0.40
isced: 3	0.38	0.48	0.39	0.49	0.38	0.49	0.38	0.49	0.40	0.49	0.38	0.49
isced: 4	0.01	0.12	0.02	0.15	0.03	0.16	0.02	0.14	0.05	0.21	0.03	0.16
isced: 5	0.21	0.41	0.21	0.41	0.27	0.44	0.25	0.44	0.25	0.43	0.24	0.43
isced: other	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.02	0.00	0.05	0.00	0.04
income: living comfortably	0.33	0.47	0.29	0.45	0.29	0.45	0.25	0.43	0.27	0.44	0.28	0.45
income: coping on	0.46	0.50	0.45	0.50	0.45	0.50	0.45	0.50	0.44	0.50	0.45	0.50
income: difficult on	0.17	0.37	0.19	0.39	0.19	0.39	0.22	0.41	0.20	0.40	0.19	0.39
income: very difficult on	0.05	0.21	0.07	0.26	0.08	0.27	0.09	0.28	0.10	0.29	0.08	0.27
health: very good	0.25	0.44	0.23	0.42	0.21	0.41	0.22	0.42	0.23	0.42	0.23	0.42
health: good	0.43	0.50	0.43	0.50	0.43	0.49	0.43	0.49	0.42	0.49	0.43	0.49
health: fair	0.24	0.43	0.26	0.44	0.28	0.45	0.27	0.44	0.26	0.44	0.26	0.44
health: bad	0.06	0.24	0.07	0.25	0.07	0.26	0.07	0.26	0.07	0.26	0.07	0.25
health: very bad	0.01	0.11	0.01	0.12	0.02	0.13	0.01	0.12	0.02	0.12	0.01	0.12
ethnic	0.04	0.19	0.04	0.21	0.06	0.24	0.07	0.26	0.05	0.23	0.05	0.23
religious	4.96	2.94	4.90	2.96	4.77	2.92	4.89	2.98	4.50	2.99	4.82	2.96
union	0.42	0.49	0.42	0.49	0.45	0.50	0.40	0.49	0.40	0.49	0.42	0.49
retired	0.20	0.40	0.22	0.42	0.23	0.42	0.22	0.42	0.26	0.44	0.23	0.42
unemployed	0.06	0.23	0.06	0.24	0.05	0.22	0.07	0.25	0.08	0.27	0.06	0.24

Variables	2002		2004		2006		2008		2010		Total	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
discriminated	0.07	0.25	0.06	0.24	0.06	0.24	0.07	0.25	0.06	0.24	0.06	0.25
discriminated (migration basis)	0.03	0.17	0.03	0.16	0.03	0.17	0.03	0.18	0.03	0.18	0.03	0.17
discriminated on race	0.01	0.09	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10	0.01	0.09
discriminated on nationality	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11
discriminated on religion	0.01	0.11	0.01	0.09	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.10
discriminated on language	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.08	0.00	0.07	0.01	0.08
discriminated on ethnic	0.01	0.08	0.00	0.07	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.09
satisfied with the government	4.42	2.39	4.37	2.44	4.42	2.44	4.01	2.55	3.84	2.46	4.22	2.47
satisfied with the economy	4.52	2.43	4.64	2.46	5.04	2.51	3.86	2.47	4.03	2.52	4.41	2.51
satisfied with life	7.09	2.23	6.88	2.31	6.82	2.36	6.67	2.38	6.83	2.27	6.85	2.32
migration makes a better place to live	4.79	2.20	4.68	2.32	4.79	2.31	4.80	2.34	4.77	2.26	4.76	2.29
migration is good for cultural life	5.77	2.46	5.42	2.57	5.48	2.56	5.40	2.60	5.41	2.48	5.49	2.54
migration is good for economy	4.97	2.39	4.73	2.46	4.95	2.48	4.81	2.48	4.70	2.38	4.83	2.45
victim of crime	0.21	0.41	0.20	0.40	0.19	0.39	0.17	0.37	0.18	0.38	0.19	0.39
fear of crime: very safe	0.28	0.45	0.25	0.43	0.25	0.43	0.24	0.43	0.25	0.43	0.25	0.43
fear of crime: safe	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	0.50	0.50	0.50
fear of crime: unsafe	0.17	0.38	0.20	0.40	0.20	0.40	0.21	0.41	0.19	0.39	0.19	0.40
fear of crime: very unsafe	0.05	0.21	0.06	0.23	0.05	0.22	0.05	0.21	0.05	0.22	0.05	0.22

As the sample contains former communist countries, we also control for this characteristic at the country level. In this respect, Alesina and Fuchs-Schundeln (2007) argue that this variable can control for possible lasting effects of communism on social preferences. The variables of the vector $Z_{i,c,t}$ are individual specific and include some standard controls like sex (*male*), age, squared age, the existence of a couple or spouse living with the respondent, education level in the form of ISCED dummies, self-reported health status ranging from very good to very bad in five scales, belonging to a minority ethnic group in the country (*ethnic*), how religious is the individual regardless of any particular religion (*religious*) in a scale from 1 (not at all) to 10 (very religious). The ESS does not have a uniform question on personal income but we include a proxy that is asked over all waves. This is "which of the descriptions on this card comes closest to how you feel about your household's income nowadays?" with four possible scales: living comfortably on present income (1), coping on present income (2), difficult on present income (3) and very difficult on present income (4). Other dummy variables are *union* membership (indicating current or past affiliation with a trade union or similar), *retired* and *unemployed*.

Another set of variables that we will use in some alternative specifications are related to personal experiences, attitudes and beliefs. The dummy variable *discriminated* is drawn

from the question "Would you describe yourself as being a member of a group that is discriminated against in this country?". The interesting feature of this variable and additional ESS questions is that it is possible to know on what grounds the group of reference is discriminated against. We distinguish discrimination because of colour/race, nationality, religion, language and ethnic group. Furthermore, the variable *discriminated (migration basis)* takes value of one when the individual indicates any of the reasons mentioned, and zero otherwise. This variable is enables us to analyse the effect of discrimination based on migration status on general trust. Other control variables reflect satisfaction with the government, the economy and life. Attitudes to migration are also captured by three dummy variables: i) *migration makes a better place to live,* ii) *migration is good for cultural life, and* iii) *migration is good for economy.* The dummy variable *crime* is built from the question "Have you or a member of your household been the victim of a burglary or assault in the last 5 years?", whilst the variables for fear of crime is constructed from "How safe do you - or would you - feel walking alone in this area after dark?".

3.2 Main results

Table 2 reports the results for different specifications of equation 1. The first column is our baseline result which considers only individual demographic controls and country level variables. Across the next columns, we add different variables for attitudes and beliefs that are potentially associated with the level of trust. These variables are added one by one and not all in once, to avoid sizeable reduction in the sample size. All the specifications include country and year fixed effects and the interactions between countries and years.

The coefficient of gini is negative and significant over all specifications, ranging between -0.046 and -0.080. This implies that an increase of one percentage point of the gini is associated to a reduction of 1% to 1.6% in the score of trust evaluated at sample means. The

direction and significance of the gini coefficient is maintained even with the inclusion of GDP per capita in the regressions, which may absorb a large part of the variability in the dependent variable. In this respect, our results contrast with those reported by Steijn and Lancee (2011) who find that once one controls for GDP, the effects of income inequality on trust vanishes. In all our specifications, GDP is positively associated to trust, which is line with the findings of a large literature on the relations between trust and growth (Durlauf and Fafchamps, 2004; Zak and Knack, 2001; Beugelsdijk et al, 2004; Knack and Keefer, 1997; Steijn and Lancee, 2011; and Algan and Cahuc, 2010). Furthermore, respondents from former communist countries are more trustful. This result is at odds with Bjørnskov (2007) and Traps (2009) who claim the experience in a soviet country has negative and lasting effects on trust. Recall that we are including time and country effects and their interactions in the regressions. Without these controls our estimates will be more likely to suffer from spurious regression and trends and contemporaneous error correlations. The effect of communist becomes negative but insignificant if any of these controls are excluded.

With respect to demographic characteristics, individuals who are male, single, older, more educated, richer with better living conditions, healthier or religious are more trustful. The persons who belong or belonged to a union are more trustful, but retirees and unemployed are less trusting. Furthermore, the individuals who belong to a minority ethnic group in the country are less trustful, but this result is only significant in half of the specifications. Interestingly, the largest and more statistically significant effect of being a member of a minority ethnic group arises when the attitudes for migration are included in the equation for trust (specification 8 of table 2)[2].

Regarding the effect of attitudes and beliefs on trust, we observe that being discriminated in a general way or on the ground of variables potentially signalling a status of

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[2] Apparently, this result is not depended on the composition of the sample. If we use exactly the same sample of specification 8 of table 2 to run the regression of trust without including the controls for attitudes to migration, then the variable *ethnic* is insignificant.

immigrant (colour/race, nationality, religion, language or ethnic) is associated with less trusting behaviour. Alesina and La Ferrara (2002), with individual data from US localities, find that groups traditionally discriminated against (woman and blacks) are associated with low levels of trust. Moreover, Gustavsson and Jordahl (2008) find that the proportion of foreigners in the population reduces trust.

People satisfied with the government and the economy are more trustful as well. These results are expected as these satisfaction variables are a proxy, though imperfect, for trust on the government. Furthermore, individuals who are more satisfied with life are also more trusting, which is a relationship that has also been found in other studies (Helliwell and Wang, 2011). Positive attitudes to migration are associated with higher levels of trust as well. Being a victim of crime or experiencing fear of crime in the area where one live is negatively associated to trust. This result may be interpreted as an example of how trust is related to social cohesion.

All the previous results remain largely unchanged if we use Gini computed with pre-tax incomes instead of one computed with net incomes (see appendix A2). The effect of income inequality is negative and significant although the size of the coefficients is about 10 times lower. Only the specifications that include the variables of satisfaction with the government and economy (5 and 6) show a positive effect of Gini on trust.

Table 2: OLS regressions for general, full sample 2002-2010, with gini of net incomes

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
gini of net incomes	-0.0465***	-0.0796***	-0.0459***	-0.0460***	-0.0598***	-0.0792***	-0.0484***	-0.0512***	-0.0471***	-0.0757***
log gdp pc	0.5519***	0.2648***	0.5437***	0.5454***	0.3930***	0.0834***	0.4463***	0.2936***	0.5589***	0.2849***
communist	1.2770***	0.5212***	1.2368***	1.2445***	1.1034***	0.6115***	1.3214***	0.7435***	1.2690***	0.6422***
male	0.0511***	0.0509***	0.0542***	0.0542***	0.0286*	-0.0017	0.0680***	0.0322**	0.0528***	-0.0813***
living with partner	-0.0291*	-0.0288*	-0.0280*	-0.0282*	-0.0436***	-0.0418***	-0.0992***	-0.0159	-0.0294*	-0.0299**
age	-0.0098***	-0.0092***	-0.0099***	-0.0099***	-0.0037	-0.0020	0.0007	-0.0082***	-0.0102***	-0.0150***
age sq /100	0.0129***	0.0119***	0.0127***	0.0127***	0.0062**	0.0048*	0.0027	0.0128***	0.0130***	0.0188***
isced: 2	0.0060	0.0082	0.0056	0.0047	0.0160	0.0204	0.0061	-0.0151	0.0119	0.0039
isced: 3	0.1608***	0.1651***	0.1594***	0.1581***	0.1834***	0.1850***	0.1705***	0.0845***	0.1741***	0.1594***
isced: 4	0.3500***	0.3569***	0.3485***	0.3468***	0.3781***	0.3644***	0.3517***	0.2166***	0.3668***	0.3523***
isced: 5	0.6034***	0.6118***	0.6043***	0.6026***	0.6052***	0.5868***	0.6053***	0.3720***	0.6238***	0.5878***
isced: other	-0.0641	-0.0611	-0.0611	-0.0631	0.0044	-0.0094	-0.0570	-0.1372	-0.0504	-0.0201
income nowadays: living comfort.	0.7792***	0.7331***	0.7602***	0.7609***	0.5970***	0.4516***	0.4125***	0.6284***	0.7714***	0.6996***
income nowadays: coping on	0.4809***	0.4434***	0.4653***	0.4663***	0.3579***	0.2653***	0.1966***	0.3858***	0.4731***	0.4249***
income nowadays: difficult on	0.2152***	0.1900***	0.2049***	0.2054***	0.1419***	0.1056***	0.0661	0.1715***	0.2078***	0.1861***
health: very good	0.9324***	0.9150***	0.9291***	0.9289***	0.7638***	0.7101***	0.4807***	0.7642***	0.9150***	0.7817***
health: good	0.7052***	0.6904***	0.7029***	0.7024***	0.5793***	0.5383***	0.3311***	0.5709***	0.6914***	0.6063***
health: fair	0.3754***	0.3690***	0.3756***	0.3747***	0.2916***	0.2654***	0.0991*	0.2884***	0.3684***	0.3203***
health: bad	0.1420**	0.1472**	0.1443**	0.1434**	0.1035	0.0856	0.0004	0.0891	0.1400**	0.1100*
ethnic	-0.0985	-0.0097	0.0103	0.0088	-0.1117**	-0.0987*	-0.0490	-0.2612***	-0.1003*	-0.0931*
religious	0.0344***	0.0353***	0.0357***	0.0356***	0.0190***	0.0209***	0.0234***	0.0288***	0.0340***	0.0341***
union	0.0602***	0.0609***	0.0598***	0.0594***	0.0707***	0.0748***	0.0630***	0.0445**	0.0609***	0.0700***
retired	-0.0689***	-0.0678**	-0.0690**	-0.0687**	-0.0811***	-0.0663**	-0.0983***	-0.0542**	-0.0744***	-0.0642**
unemployed	-0.1573***	-0.1471***	-0.1511***	-0.1509***	-0.1362***	-0.1047***	-0.0699***	-0.1341***	-0.1562***	-0.1611***
discriminated		-0.4052***								
discriminated (migration basis)			-0.4475***							
discriminated on race				-0.3819***						
discriminated on nationality				-0.3302***						
discriminated on religion				-0.2534***						
discriminated on language				-0.1230						
discriminated on ethnic				-0.2649**						
satisfied with the government					0.1732***					
satisfied with the economy						0.2155***				
satisfied with life						0.1696***				
migration makes a better place to live								0.0959***		
migration is good for cultural life								0.0624***		
migration is good for economy								0.0778***		
victim of crime									-0.1961***	
fear of crime: very safe										1.1661***
fear of crime: safe										0.9187***
fear of crime: unsafe										0.4659***
Observations	209153	206371	209153	209153	200194	204118	208301	189525	208616	207078
Adjusted R^2	0.192	0.194	0.192	0.192	0.218	0.223	0.209	0.226	0.193	0.204

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Regressions implemented with robust cluster standard errors (not presented for reasons of space; available upon request). Each regression controls for country and year fixed effects and their interactions. The base outcomes for dummies are "isced: 1"; "income nowadays: very difficult on"; "health: very bad"; "fear of crime: very unsafe".

4. General trust over time

The preceding analysis has shown significant relationships between general trust and other important variables, in particular a negative relation between income inequality and trust; but these results must be interpreted with caution. Those relationships should be understood as associations based on cross-country differences because they are derived from pooled data of different respondents across waves. Even thought we have controlled a great deal for country and time effects, we cannot fully confident that changes in income inequality over time have the same effects on general trust. The way to study those changes is by following the same unit across time, which is only possible with a panel data structure. Furthermore, there are individual unobserved effects that are potentially related to the dependent variable, so that a simple OLS regression will suffer from the *omitted variables* problems (leading to inconsistent estimators). In a panel data set, a fixed effect estimator will allow us to control for time-invariant observed and unobserved effects. For example, differences in general trust may vary due to persistent factors of the country (institutions, culture, social beliefs, etc.) and not because of changes in economic inequality. This is the crucial factor distinguishing panel analysis from the OLS analysis of the pooled data on the previous section.

4.1 Regressions for the average score of general trust

Unfortunately we do not have a panel survey of individuals that would allow us to conduct a longitudinal analysis of trust in Europe, but we can readily construct a panel dataset by collapsing the variables of interest of the ESS by country and year of the wave. So, the characteristics of these countries are constructed by averaging the values of individuals in each country. Table 3 describes the structure of the panel dataset.

Table 3: Composition of panel data

Country	2002	2004	2006	2008	2010	Total of panels	Total of respondents
Austria	1	1	1	0	0	3	6,918
Belgium	1	1	1	1	1	5	8,939
Bulgaria	0	0	1	1	1	3	6,064
Croatia	0	0	0	1	0	1	1,484
Cyprus	0	0	1	1	0	2	2,210
Czech Republic	1	1	0	1	1	4	8,790
Denmark	1	1	1	1	1	5	7,684
Estonia	0	1	1	1	1	4	6,960
Finland	1	1	1	1	1	5	9,991
France	1	1	1	1	1	5	5,787
Germany	1	1	1	1	1	5	14,487
Greece	1	1	0	1	1	4	9,759
Hungary	1	1	1	1	1	5	7,806
Iceland	0	1	0	0	0	1	579
Ireland	1	1	1	1	0	4	7,896
Israel	1	0	0	0	0	1	2,499
Italy	1	1	0	0	0	2	2,736
Latvia	0	0	0	1	0	1	1,980
Luxembourg	1	1	0	0	0	2	3,187
Netherlands	1	1	1	1	1	5	9,741
Norway	1	1	1	1	1	5	8,643
Poland	1	1	1	1	1	5	8,917
Portugal	1	1	1	1	1	5	10,302
Romania	0	0	0	1	0	1	2,146
Russian Federation	0	0	1	1	0	2	4,949
Slovakia	0	1	1	1	1	4	6,944
Slovenia	1	1	1	1	1	5	7,126
Spain	1	1	1	1	1	5	9,729
Sweden	1	1	1	1	1	5	9,201
Switzerland	1	1	1	1	0	4	7,804
Turkey	0	1	0	1	0	2	4,272
Ukraine	0	1	1	0	0	2	4,033
United Kingdom	1	1	1	1	1	5	11,117
Total	22	26	23	27	19	117	220,680

The estimations will consider only countries with at least two years with complete information over the whole period of analysis; consequently five countries are excluded (Croatia, Iceland, Israel, Latvia and Romania). Furthermore, there is no information about the proxy of family income for France in years 2002 and 2004. The final number of countries with information is 28 and the country-year points are 110.

In a panel data structure with $i=1,…N$ individuals followed across $t=1,…,T$ periods, it is common to use the following specification:

$$\bar{y}_{it} = \delta_t + \alpha_i + \beta \bar{X}_{it} + \varphi \bar{Z}_{it} + \mu_{it} \tag{2}$$

The dependent variable $\bar{y}_{it}$ measures the average general trust for country i in year t. The vector $\bar{X}_{it}$ contains the gini coefficient and GDP per capita (in logs) that are country and time specific, and $\bar{Z}_{it}$ denotes the rest of time and country specific socio-demographic variables. The term α_i is the year-invariant country unobserved effect; δ_t is a common unobservable year-specific effect and μ_{it} is the time-varying country specific idiosyncratic error. It is well established in the empirical literature that if α_i is not controlled for and instead is let to be part of the composite error, the estimators will be inconsistent. A fixed effect estimator (FE) will take away the individual unobserved effects by subtracting the time means of each variable for every individual in the model. As is standard in this procedure, the FE will allow the unobserved effect α_i to be arbitrarily correlated with the time-varying explanatory variables.

We estimate a FE model based on equation 2, using robust standard errors and include year dummies to control for time effects, which help to mitigate the effects of spurious trends and contemporaneous panel error correlations. The explanatory variables are the same as those used in the pooled estimation, except those that -at the country level- we expect not vary significantly or at all over time (*communist, male, age, living with partner, health*). Table 4 reports the results of the FE estimation with different specifications.

When analysing the results with the panel data, we do not observe a significant effect of Gini on general trust, even under different specifications. One of the few significant variables related to trust is GDP which is in line with the cross-country results. In the panel data, wealthier nations have higher levels of trust, a well-known result. Interestingly, the variable *ethnic* that measures the proportion of people from a minority ethnic group in the country, is sizeable, statistically significant and negatively associated to trust in the majority of specifications (8 out 11). This is line with other studies claiming an important role of ethnic diversity on lowering general trust (Knack and Keefer, 1997; Leigh, 2006b;

Gustavsson and Jordahl, 2008; Putman, 2007; and Alesina and La Ferrara, 2002). Being unemployed also reduce trust significantly in 6 out 11 equations. The fraction of people who has suffered discrimination on the ground of migration status does not affect trust levels, on. However, if the discrimination was suffered in a more general basis (including migration status and other reasons like age, gender, disability and sexuality), then trust is positively associated with this general discrimination. Satisfaction with the government is positively related to trust. Only the share of people with a lower fear of crime is positively related with trust.

The results are broadly the same when we use a Gini of pre-tax incomes. Income inequality has no effect on general trust; and again the impact of the proportion of people from a minority ethnic group in the country is sizeable, negative and significant in the majority of specifications (7 out 11). Furthermore, we are unable to find a significant effect of income inequality on trust when we try lags of gini of net and pre-tax incomes.

Table 4: Fixed Effects estimates for general trust (with gini of net incomes)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
gini of net incomes	-0.0002	0.0009	-0.0022	-0.0173	0.0036	-0.0002	0.0036	0.0076	-0.0005	-0.0049	0.0017
log gdp pc	0.6798	0.7277	0.7435*	0.8591**	0.8441*	0.6788	0.5823	1.1016**	0.7316	0.8149**	1.8648***
isced: 2	-0.1391	-0.2496	-0.2064	-0.5298	-0.2019	-0.1458	-0.3586	0.6343	-0.1408	0.2240	1.1802
isced: 3	0.0787	-0.0165	0.0557	-0.0022	-0.0489	0.0743	-0.0927	0.7284	0.0823	0.3318	0.9842
isced: 4	-0.5835	-0.6889	-0.5773	-0.7265	-0.5643	-0.5893	-0.3647	0.3377	-0.5834	-0.3438	0.8196
isced: 5	-0.0204	-0.0663	-0.0609	-0.2117	-0.1378	-0.0220	-0.1787	0.0999	-0.0849	0.1834	0.3421
isced: other	-0.9628	-0.7971	-0.3173	-1.8643	-1.0444	-0.9694	-1.0838	-2.8751	-1.0196	-1.2157	-0.8208
income: living comfortably	-0.9967	-1.0707	-0.8029	-0.9159	-1.7127*	-1.0156	-1.3551	-1.6021*	-0.9772	-1.6179*	-1.4425
income: coping on	-1.0183	-1.0963	-0.9680	-0.8296	-1.3504	-1.0238	-1.4110	-1.3557	-0.9385	-1.9551*	-2.0153
income: difficult on	-2.1668	-2.2558*	-1.9215	-1.8011	-2.3110*	-2.1724*	-1.9296	-2.1906*	-2.0792	-3.2198**	-2.5166*
ethnic	-1.3916*	-1.5122**	-2.2200	-0.4024	-1.8782***	-1.4018**	-1.0029	-1.5293***	-1.3568*	-1.9800***	-3.5554***
religious	-0.1305	-0.1321	-0.1278	-0.0681	-0.1589	-0.1311	-0.1725	-0.1454	-0.1283	-0.1326	-0.0912
union	-0.8416	-0.7915	-0.6907	-0.6260	-0.5334	-0.8379	-0.6949	-0.8811	-0.9075	-0.6178	-0.4130
retired	-0.2637	-0.3145	-0.2914	-0.8574	-0.4668	-0.2689	-0.5436	-0.0326	-0.2548	-0.1898	0.1487
unemployed	-2.0622*	-1.9055*	-1.7844*	-1.7067	-1.5189	-2.0388	-1.3273	-1.6563	-2.1075*	-1.8928*	-1.7260*
discriminated		0.1664***									
discriminated (migration basis)			2.0157								2.3293
discriminated on race				-2.9715							
discriminated on nationality				-10.9185							
discriminated on religion				5.5144							
discriminated on language				7.9329							
discriminated on ethnic				9.3100*							
satisfied with the government					0.0567**						0.1129**
satisfied with the economy						0.0014					-0.1274**
satisfied with life							0.2120*				-0.0608
migration makes a better place to live								0.3687**			0.4471***
migration is good for cultural life								-0.0861			-0.2177
migration is good for economy								-0.0415			-0.0355
victim of crime									0.3894		0.0192
fear of crime: very safe										3.4626**	2.8988**
fear of crime: safe										1.5552	0.9124
fear of crime: unsafe										2.3639	2.3610
constant	0.5108	0.1259	-0.2786	-1.1959	-0.9959	0.5273	0.4563	-5.1166	-0.1137	-2.3309	-13.8983***
Observations	110	110	110	110	109	110	110	110	110	110	109
R^2 (within)	0.4616	0.4697	0.4673	0.5047	0.4916	0.4616	0.4757	0.5234	0.4632	0.5450	0.6493

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Regressions implemented with robust standard errors (not presented for reasons of space; available upon request). Each regression include year dummies.

4.2 Regressions for the distribution of general trust

As we observed in the illustrative graphs of the distribution of trust (appendix A1), there are some countries that have experienced variations in different parts of this distribution. Focusing only on the mean value of trust can neglect some important movements in certain regions of the trust distribution. To study this we create three new dependent variables when collapsing the original data into the panel data:

i) % of persons reporting a score of trust from 0 to 3

ii) % of persons reporting a score of trust from 4 to 6

iii) % of persons reporting a score of trust from 7 to 10

The results are reported in table 5. There are no significant effects of income inequality on trust, irrespective of whether we measure this with Gini of net and gross incomes, and with lags of Gini. An increase in the proportion of ethnic minorities raises the size of the bottom part (and decrease the upper part) of the distribution of trust. As we observed before with individual data, the persons from a minority ethnic group are less trusting, and therefore an increase of their share in the country will enlarge the bottom part of the distribution of trust. At the same time, the upper part of the distribution shrinks so that we could observe an overall reduction of the levels of trust in a given country. In a context of increasing migration to Europe, the relationship that we have uncovered means will have more substantial effects on the level of trust in countries that already have a right skewed trust distribution (like Greece and Slovenia for example).

Table 5: Fixed Effects estimates for the distribution of trust

Variables	Dep Var = % with score 0-3				Dep Var = % with score 4-6				Dep Var = % with score 7-10			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
gini of net incomes	-0.0006				0.0015				-0.0009			
gini of market incomes		0.0017				-0.0015				-0.0002		
gini of net incomes [-1]			-0.0018				0.0028				-0.0010	
gini of market incomes [-1]				0.0017				-0.0016				-0.0001
log gdp pc	-0.2386**	-0.2117*	-0.2830***	-0.2622**	-0.0531	-0.0778	0.0117	-0.0095	0.2917***	0.2895***	0.2713***	0.2717***
isced: 2	-0.1102	-0.0880	-0.3195***	-0.3006**	0.0452	0.0216	0.2136*	0.1956	0.0650	0.0664	0.1058	0.1050
isced: 3	-0.1098	-0.0911	-0.2860***	-0.2796***	0.0451	0.0256	0.1905*	0.1853*	0.0647	0.0656	0.0955	0.0943
isced: 4	0.0109	0.0562	-0.1644	-0.1219	0.0098	-0.0406	0.1568	0.1052	-0.0207	-0.0156	0.0076	0.0167
isced: 5	-0.0203	0.0214	-0.1188	-0.0892	0.0425	0.0005	0.1274	0.0963	-0.0222	-0.0219	-0.0085	-0.0071
isced: other	-0.2961	-0.1420	-0.3299	-0.1863	0.9096*	0.7653	0.8660*	0.7131	-0.6135	-0.6232	-0.5361	-0.5268
income: living comfortably	0.3035	0.2770	0.0860	0.0378	-0.3180	-0.2918	-0.1338	-0.0776	0.0145	0.0148	0.0478	0.0398
income: coping on	0.5373**	0.5141**	0.3903	0.3355	-0.4780	-0.4545	-0.2862	-0.2237	-0.0593	-0.0596	-0.1042	-0.1117
income: difficult on	0.5378**	0.5535*	0.3187	0.3296	-0.4467	-0.4683	-0.2281	-0.2423	-0.0911	-0.0852	-0.0906	-0.0873
ethnic	0.6720**	0.6331**	0.7308**	0.7304**	-0.1521	-0.1333	-0.1855	-0.2057	-0.5200***	-0.4998**	-0.5453***	-0.5247***
religious	0.0173	0.0145	0.0173	0.0146	-0.0134	-0.0109	-0.0096	-0.0064	-0.0039	-0.0037	-0.0077	-0.0082
union	0.0597	0.0624	0.0936	0.1187	0.0803	0.0773	0.0186	-0.0097	-0.1399*	-0.1396*	-0.1122	-0.1091
retired	-0.0340	-0.0678	-0.1515	-0.1834	-0.0443	-0.0089	0.0307	0.0674	0.0783	0.0766	0.1208	0.1160
unemployed	0.1583	0.2034	0.3119**	0.3038**	0.1118	0.0658	0.0313	0.0451	-0.2701	-0.2692	-0.3433	-0.3489
discriminated (migration basis)	-0.8690*	-0.8368*	-1.0088*	-1.1160**	0.8828	0.8919	0.8275	0.9901*	-0.0138	-0.0551	0.1812	0.1259
satisfied with the government	-0.0139	-0.0116	-0.0130	-0.0090	-0.0047	-0.0072	-0.0031	-0.0075	0.0186**	0.0188**	0.0161*	0.0165*
satisfied with the economy	0.0187	0.0181	0.0206*	0.0178*	-0.0011	-0.0003	-0.0063	-0.0031	-0.0176*	-0.0178*	-0.0143	-0.0146
satisfied with life	0.0011	0.0086	0.0165	0.0296	0.0263	0.0169	0.0042	-0.0120	-0.0274	-0.0255	-0.0207	-0.0176
migration makes a better place to live	-0.0673**	-0.0630**	-0.0950***	-0.0867***	0.0195	0.0144	0.0403	0.0302	0.0478**	0.0486**	0.0547**	0.0565**
migration is good for cultural life	0.0413*	0.0472*	0.0490*	0.0524**	-0.0250	-0.0310	-0.0331	-0.0372	-0.0162	-0.0162	-0.0159	-0.0152
migration is good for economy	0.0044	-0.0042	-0.0001	-0.0134	0.0073	0.0166	0.0116	0.0275	-0.0117	-0.0125	-0.0115	-0.0141
victim of crime	-0.1328	-0.1865	-0.0977	-0.1423	0.2091	0.2626	0.2011	0.2496	-0.0764	-0.0762	-0.1034	-0.1073
fear of crime: very safe	-0.6086**	-0.7092**	-0.6985**	-0.8377**	0.2420	0.3626	0.2574	0.4289	0.3666	0.3466	0.4411*	0.4088*
fear of crime: safe	-0.3966	-0.5561*	-0.4971*	-0.6830**	0.3216	0.4922	0.3202	0.5330*	0.0750	0.0639	0.1769	0.1501
fear of crime: unsafe	-0.5086	-0.5922	-0.6355*	-0.7675*	0.2407	0.3466	0.2757	0.4395	0.2680	0.2457	0.3598	0.3280
constant	2.7443***	2.4543**	3.6111***	3.3890***	0.8077	1.0912	-0.0894	0.1461	-2.5520***	-2.5456***	-2.5217***	-2.5351***
Observations	109	109	116	116	109	109	116	116	109	109	116	116
R2 (within)	0.5493	0.5624	0.5909	0.5982	0.3475	0.3559	0.3343	0.3369	0.6243	0.6236	0.6316	0.6305

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Regressions implemented with robust standard errors (not presented for reasons of space; available upon request). Each regression include year dummies.

Furthermore, an increase in GDP p.c. reduces the size of the bottom part and raises the upper section of the distribution of trust. The proxy of family income affects the bottom part of the distribution of trust. For example, the share of people with incomes that allows them to just cope with living expenses increases the bottom part of the trust distribution more than the share of people living comfortably. Apparently, relative income only matters for the lower levels of trust. This is interesting because policies seeking to improve the purchasing power of the poor can also have positive effects on trust. Overall, the results relating to the distribution of trust are in line with the previous findings. Perhaps, the most intriguing result is that an increase in the share of people being discriminated on migration basis decreases the size of the bottom part of the distribution of trust. However, given the means of *ethnic* (5.24%) and *discriminated on migration basis* (2.95%) in the sample, the effect that dominates is the one of *ethnic*. Moreover, the effect of *discriminated on migration basis* becomes insignificant if we do not control for *ethnic*.

5. Conclusions

This paper analyses the determinants of trust in a pool of 33 European countries over the period 2002-2010. In a pooled data composed of about 200,000 individuals we find that income inequality is negatively related to trust, which is a common result in the empirical literature on trust that focuses on cross-country differences. However, most of this literature does not take into account the problem of omitted variables, which leads to inconsistent estimators. Differences in general trust may vary due to persistent factors that are specific to the country (institutions, culture, social beliefs, etc.) and not because of changes in economic inequality. For this reason, we use a fixed effects estimator in a panel dataset of countries to control for time-invariant observed and unobserved effects. This dataset is built by averaging the characteristics of individuals by country and wave of our primary dataset. The main result

is that the previously significant and negative relationship found between trust and income inequality vanishes. In contrast, we find a sizeable, negative and significant effect of the share of persons from minority ethnic groups on trust, which has also been highlighted in other studies. These results are robust to different specifications both for the score and distribution of trust. Notwithstanding the short length of our dataset, our results provide evidence that trust is not significantly related to growing income inequality in European countries once we allow for fixed effects.

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Appendix

A1. Distribution of trust by country, 2002 vs. 2010 (unconditional score)
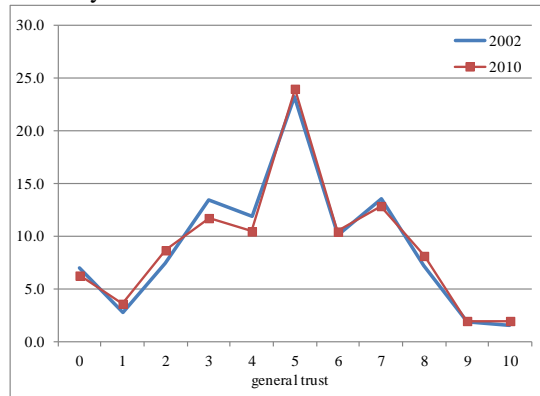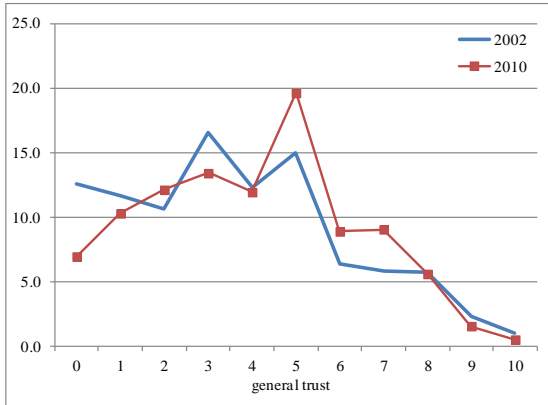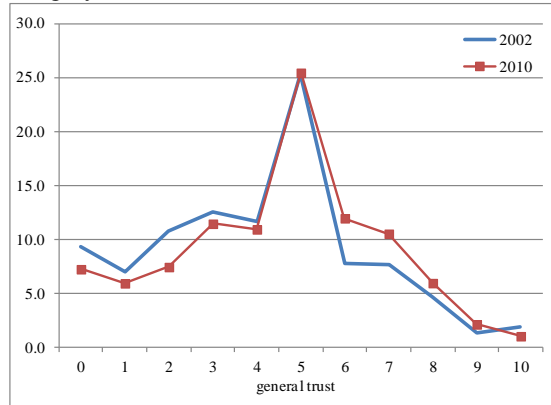
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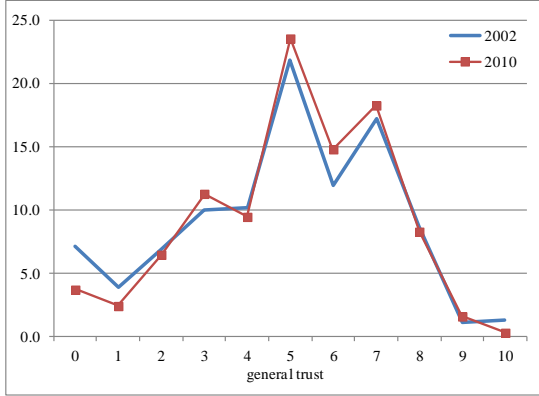
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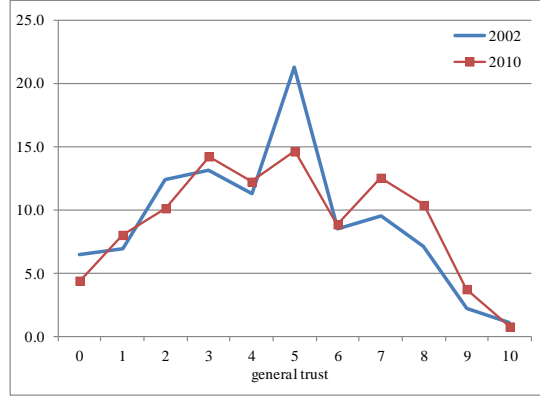
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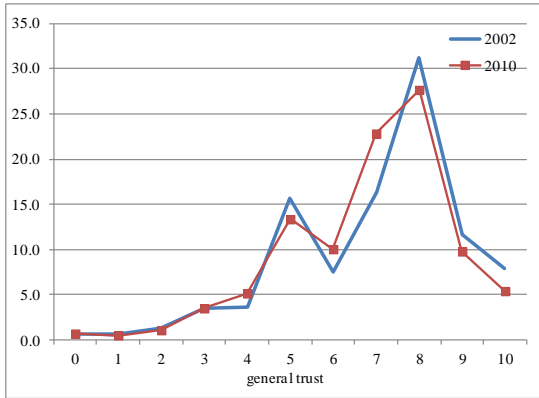
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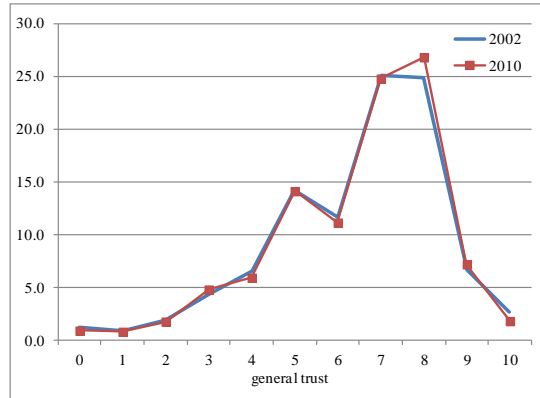
France
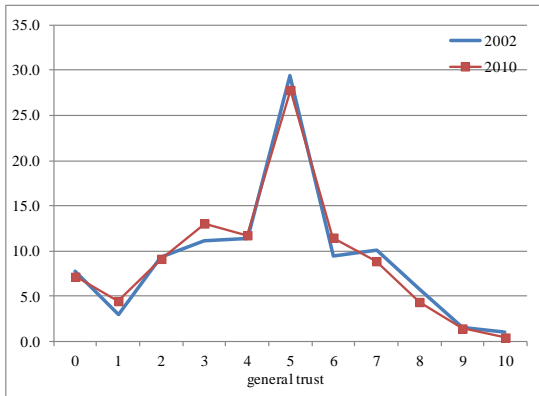
Germany

Greece

Hungary

Ireland
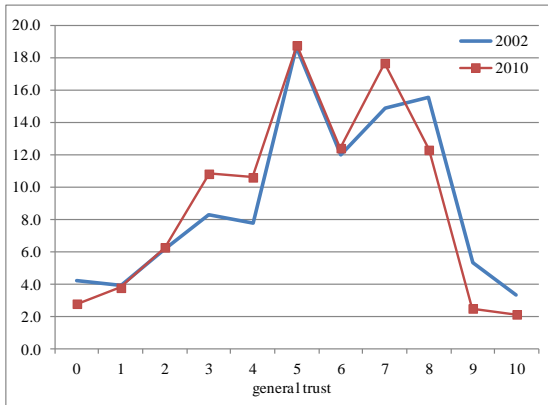
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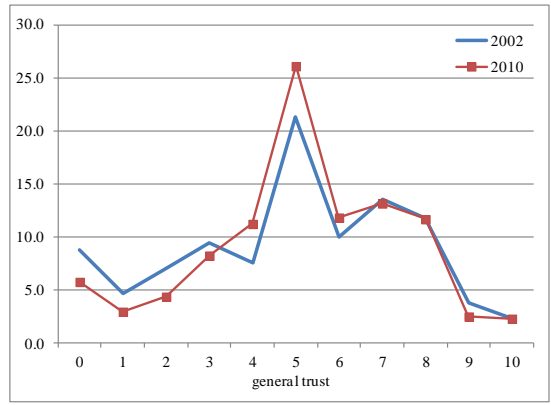
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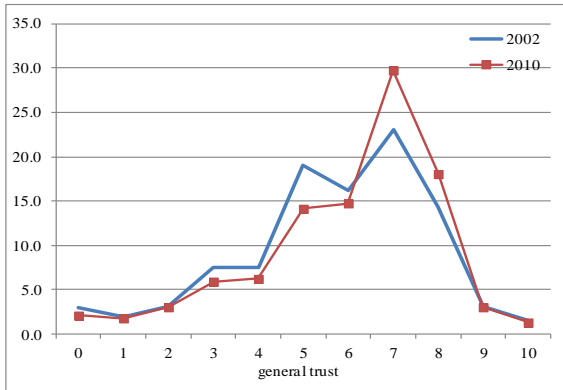
Norway
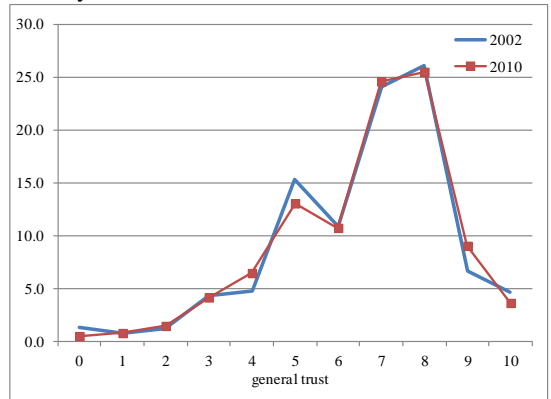
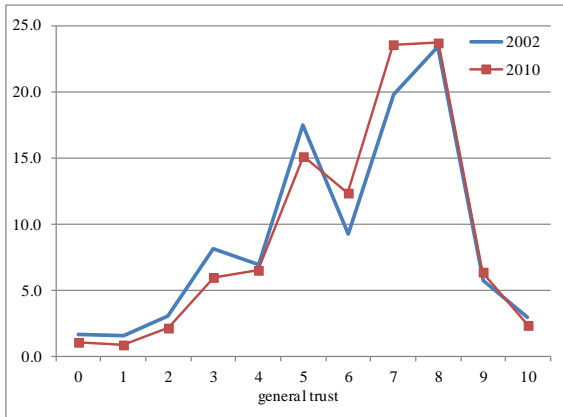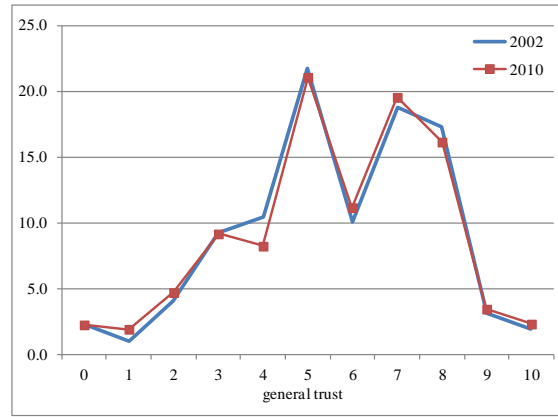## Poland
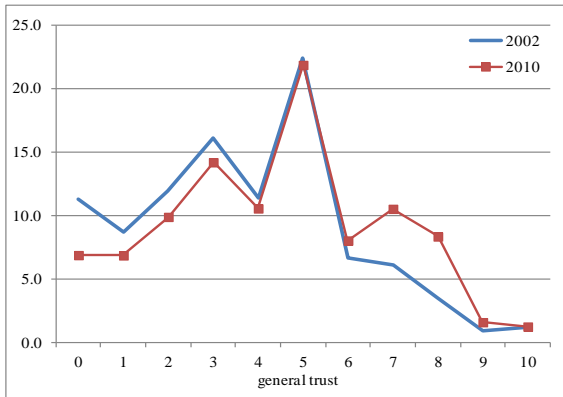
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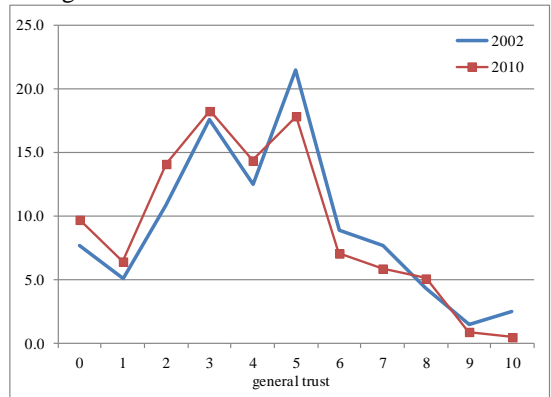
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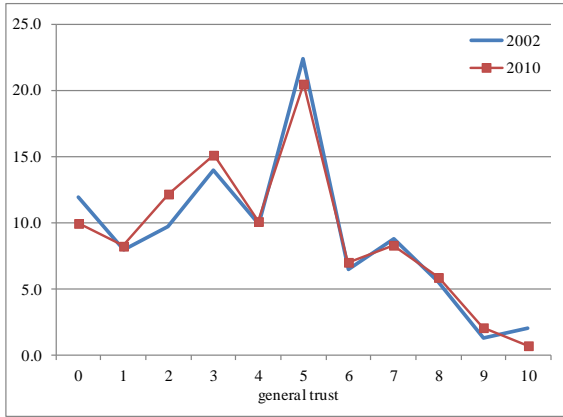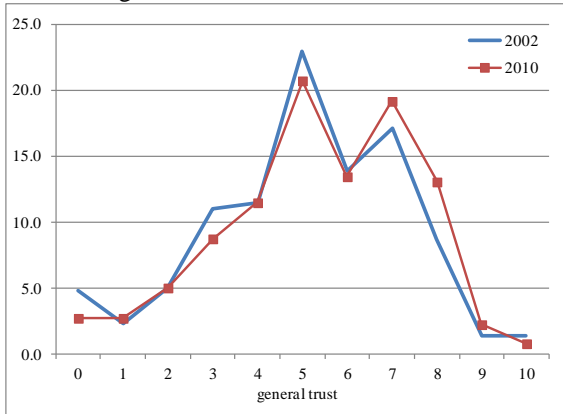

Spain
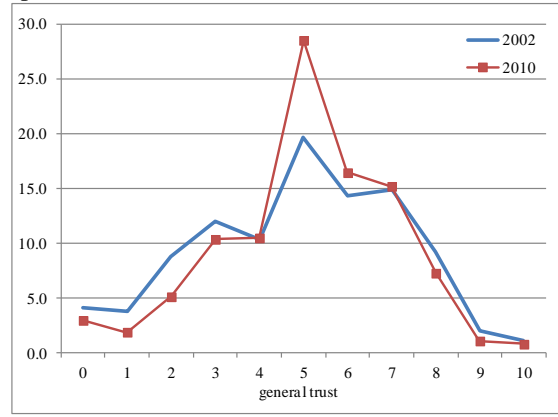
Sweden

Switzerland

United Kingdom

A2. OLS regressions for general, full sample 2002-2010, with gini of pre-tax incomes

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
gini of pre-tax incomes	-0.0012***	-0.0570***	-0.0011***	-0.0011**	0.0248***	0.0147***	-0.0011***	-0.0037***	-0.0014***	-0.0058***
log gdp pc	0.6978***	1.1281***	0.7130***	0.7113***	0.5473***	0.4862***	0.5878***	0.6126***	0.7107***	0.7890***
communist	1.5859***	1.9856***	1.6052***	1.6047***	1.7038***	1.7048***	1.6176***	1.4538***	1.5894***	1.7686***
male	0.0511***	0.0509***	0.0542***	0.0542***	0.0286*	-0.0017	0.0680***	0.0322**	0.0528***	-0.0813***
living with partner	-0.0291*	-0.0288*	-0.0280*	-0.0282*	-0.0436***	-0.0418***	-0.0992***	-0.0159	-0.0294*	-0.0299**
age	-0.0098***	-0.0092***	-0.0099***	-0.0099***	-0.0037	-0.0020	0.0007	-0.0082***	-0.0102***	-0.0150***
age sq /100	0.0129***	0.0119***	0.0127***	0.0127***	0.0062**	0.0048*	0.0027	0.0128***	0.0130***	0.0188***
isced: 2	0.0060	0.0082	0.0056	0.0047	0.0160	0.0204	0.0061	-0.0151	0.0119	0.0039
isced: 3	0.1608***	0.1651***	0.1594***	0.1581***	0.1850***	0.1850***	0.1705***	0.0845***	0.1741***	0.1594***
isced: 4	0.3500***	0.3569***	0.3485***	0.3468***	0.3781***	0.3644***	0.3517***	0.2166***	0.3668***	0.3523***
isced: 5	0.6034***	0.6118***	0.6043***	0.6026***	0.6052***	0.5868***	0.6053***	0.3720***	0.6238***	0.5878***
isced: other	-0.0641	-0.0611	-0.0611	-0.0631	0.0044	-0.0094	-0.0570	-0.1372	-0.0504	-0.0201
income: living comfortably	0.7792***	0.7331***	0.7602***	0.7609***	0.5970***	0.4516***	0.4125***	0.6284***	0.7714***	0.6996***
income: coping on	0.4809***	0.4434***	0.4653***	0.4663***	0.3579***	0.2653***	0.1966***	0.3858***	0.4731***	0.4249***
income: difficult on	0.2152***	0.1900***	0.2049***	0.2054***	0.1419***	0.1056***	0.0661	0.1715***	0.2078***	0.1861***
health: very good	0.9324***	0.9150***	0.9291***	0.9289***	0.7638***	0.7101***	0.4807***	0.7642***	0.9150***	0.7817***
health: good	0.7052***	0.6904***	0.7029***	0.7024***	0.5793***	0.5383***	0.3311***	0.5709***	0.6914***	0.6063***
health: fair	0.3754***	0.3690***	0.3756***	0.3747***	0.2916***	0.2654***	0.0991*	0.2884***	0.3684***	0.3203***
health: bad	0.1420**	0.1472**	0.1443**	0.1434**	0.1035	0.0856	0.0004	0.0891	0.1400**	0.1100*
ethnic	-0.0985	-0.0097	0.0103	0.0088	-0.1117**	-0.0987*	-0.0490	-0.2612***	-0.1003*	-0.0931*
religious	0.0344***	0.0353***	0.0357***	0.0356***	0.0190***	0.0209***	0.0234***	0.0288***	0.0340***	0.0341***
union	0.0602***	0.0609***	0.0598***	0.0594***	0.0707***	0.0748***	0.0630***	0.0445**	0.0609***	0.0700***
retired	-0.0689***	-0.0678**	-0.0690**	-0.0687**	-0.0811***	-0.0663**	-0.0983***	-0.0542**	-0.0744***	-0.0642**
unemployed	-0.1573***	-0.1471***	-0.1511***	-0.1509***	-0.1362***	-0.1047***	-0.0699***	-0.1341***	-0.1562***	-0.1611***
discriminated		-0.4052***								
discriminated (migration basis)			-0.4475***							
discriminated on race				-0.3819***						
discriminated on nationality				-0.3302***						
discriminated on religion				-0.2534***						
discriminated on language				-0.1230						
discriminated on ethnic				-0.2649**						
satisfied with the government					0.1732***					
satisfied with the economy						0.2155***				
satisfied with life							0.1696***			
migration makes a better place to live								0.0959***		
migration is good for cultural life								0.0624***		
migration is good for economy								0.0778***		
victim of crime									-0.1961***	
fear of crime: very safe										1.1661***
fear of crime: safe										0.9187***
fear of crime: unsafe										0.4659***
Observations	209153	206371	209153	209153	200194	204118	208301	189525	208616	207078
Adjusted R^2	0.192	0.194	0.192	0.192	0.218	0.223	0.209	0.226	0.193	0.204

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Regressions implemented with robust cluster standard errors (not presented for reasons of space; available upon request). Each regression controls for country and year fixed effects and their interactions. The base outcomes for dummies are "isced: 1"; "income nowadays: very difficult on"; "health: very bad"; "fear of crime: very unsafe".

A3. Fixed Effects estimates for general trust (with gini of pre-tax incomes)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
gini of net incomes	-0.0084	-0.0079	-0.0075	-0.0105	-0.0077	-0.0084	-0.0079	-0.0084	-0.0086	-0.0115	-0.0082
log gdp pc	0.5867	0.6310	0.6432	0.7877*	0.7336	0.5872	0.4882	0.9608**	0.6463	0.6676	1.7375***
isced: 2	-0.3876	-0.4773	-0.3919	-0.6803	-0.4575	-0.3847	-0.5986	0.2998	-0.3929	0.0169	1.0798
isced: 3	-0.1377	-0.2151	-0.1186	-0.1813	-0.2690	-0.1358	-0.3044	0.4450	-0.1362	0.1290	0.8991
isced: 4	-0.8022	-0.8893	-0.7635	-0.9258	-0.7968	-0.7997	-0.6183	0.0259	-0.8046	-0.5572	0.6181
isced: 5	-0.2127	-0.2479	-0.2072	-0.3966	-0.3369	-0.2119	-0.3695	-0.1357	-0.2897	-0.0803	0.1502
isced: other	-1.1649	-1.0142	-0.7221	-2.2028	-1.2655	-1.1620	-1.2973	-3.0695	-1.2323	-1.8535	-1.5455
income: living comfortably	-0.8540	-0.9305	-0.7461	-0.8747	-1.5532	-0.8458	-1.1926	-1.4595	-0.8273	-1.5630	-1.3201
income: coping on	-0.8374	-0.9150	-0.8307	-0.8522	-1.1551	-0.8350	-1.1917	-1.1346	-0.7415	-1.9763*	-1.9090
income: difficult on	-2.0044	-2.0941	-1.8681	-1.8913	-2.1555	-2.0019	-1.7995	-2.0323	-1.8986	-3.2165**	-2.5810*
ethnic	-1.3067*	-1.4092*	-1.8521	-0.3169	-1.7376***	-1.3025*	-0.9230	-1.3939**	-1.2679	-1.8334**	-3.3471**
religious	-0.1194	-0.1222	-0.1181	-0.0626	-0.1498	-0.1192	-0.1605	-0.1340	-0.1164	-0.1326	-0.0781
union	-0.7249	-0.6866	-0.6447	-0.6359	-0.4359	-0.7265	-0.5944	-0.7610	-0.7991	-0.4787	-0.4250
retired	-0.2869	-0.3319	-0.2998	-0.6807	-0.4839	-0.2847	-0.5442	-0.0749	-0.2766	-0.0794	0.3022
unemployed	-2.0898*	-1.9585*	-1.8987*	-1.6826	-1.6094	-2.0996	-1.4576	-1.6614	-2.1396*	-2.1179*	-1.9327
discriminated		0.1479**									
discriminated (migration basis)			1.2712								2.1222
discriminated on race				-3.8942							
discriminated on nationality				-9.9716							
discriminated on religion				5.8273							
discriminated on language				6.3724							
discriminated on ethnic				5.6165							
satisfied with the government					0.0539**						0.1028**
satisfied with the economy						-0.0006					-0.1248**
satisfied with life							0.1920				-0.0926
migration makes a better place to live								0.3587***			0.4280***
migration is good for cultural life								-0.1038			-0.2448
migration is good for economy								-0.0273			0.0030
victim of crime									0.4526		0.2672
fear of crime: very safe										3.7596**	3.3344**
fear of crime: safe										2.2701	1.6323
fear of crime: unsafe										2.6578	2.7148
constant	1.7386	1.3959	0.9971	-0.3771	0.5130	1.7304	1.9002	-3.0736	1.0136	-0.8748	-12.5513**
Observations	110	110	110	110	109	110	110	110	110	110	109
R² (within)	0.4742	0.4807	0.4764	0.5096	0.5018	0.4742	0.4863	0.5335	0.4764	0.5633	0.6576

*** p < 0.01, ** p < 0.05, * p < 0.1. Regressions implemented with robust standard errors (not presented for reasons of space; available upon request). Each regression include year dummies.