

García-Valiñas, María A.; Llera, Roberto Fernández; Torgler, Benno

Working Paper

More Income Equality or Not? An Empirical Analysis of Individuals' Preferences

CREMA Working Paper, No. 2005-23

Provided in Cooperation with:

CREMA - Center for Research in Economics, Management and the Arts, Zürich

Suggested Citation: García-Valiñas, María A.; Llera, Roberto Fernández; Torgler, Benno (2005) : More Income Equality or Not? An Empirical Analysis of Individuals' Preferences, CREMA Working Paper, No. 2005-23, Center for Research in Economics, Management and the Arts (CREMA), Basel

This Version is available at:

<https://hdl.handle.net/10419/214337>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

More Income Equality or Not? An Empirical Analysis of Individuals' Preferences

María A. García-Valiñas
Roberto Fernández Llera
Benno Torgler

Working Paper No. 2005 - 23

MORE INCOME EQUALITY OR NOT?

AN EMPIRICAL ANALYSIS OF INDIVIDUALS' PREFERENCES

María A. García-Valiñas, Roberto Fernández Llera and Benno Torgler*

ABSTRACT: Do people prefer a society with an extensive social welfare system with high taxes, or low taxes but lax redistributive policies? Although economists have for a long time investigated the trade-off mechanism between equity and efficiency, surprisingly little information is available about citizens' preferences over the distribution of income in a society. The aim of this paper is reduce this shortcoming, investigating in an empirical study working with World Values Survey, what shapes individuals' preferences for income equality in Spain. We present evidence that not only traditional economic variables are relevant to be considered, but also factors such as ideology, political interest, fairness perception about others or trust in institutions, are key determinants to understand preferences towards redistribution and equality.

Key words: redistribution, inequality, welfare state, social capital

JEL Classification: H230, H530, I310

* María A. García-Valiñas and Roberto Fernández Llera, Department of Economics. University of Oviedo, Avda. del Cristo s/n. Oviedo 33071, Spain, E-mails: mariangv@uniovi.es, rfllera@uniovi.es. Benno Torgler, Yale Center for International and Area Studies, Leitner Program in International & Comparative Political Economy, 34 Hillhouse Avenue, P.O. Box 208206, New Haven, CT 06520 (USA) and Center for Research in Economics, Management and the Arts (CREMA), Gellertstrasse 24, CH-4052 Basel (Switzerland). E-Mail: benno.torgler@yale.edu. We thank the participants of the First Meeting of the Society for the Study of Economic Inequality (ECINEQ) in Palma de Mallorca, July, 2005 for their helpful comments. Please address all correspondence to Benno Torgler.

I. INTRODUCTION

Economists have for a long time investigated trade-off mechanism between equity and efficiency. The question of what degree of redistribution, if any, would maximize society's well-being is an essential question in economics. However, it surprises that little information about people's preferences over the distribution of income in a society is available. Putterman, Roemer and Silvestre (1998) stress that preferences for equality may prove to be an important area for future research. Fong (2001) stress that the "reason why citizens of democratic countries support or oppose redistribution to strangers remain poorly understood, despite much research on the public sector and welfare states" (p. 225).

Table 1 indicates that major shares of governments' expenditures in European countries are devoted to reduce inequality among individuals. Social expenditure is now one of the main components of public expenditure and a significant proportion of GDP in European countries.

Table 1.- Public expenditures in some European countries

	AUSTRIA	GERMANY	BELGIUM	SPAIN	FRANCE	NETHERLANDS	IRELAND	UK	DENMARK
TOTAL SOCIAL PUBLIC EXP./GDP	25,32%	22,46%	22,87%	13,53%	20,57%	17,34%	7,21%	14,99%	34,04%
TOTAL PUBLIC EXP./GDP	66,94%	50,77%	63,06%	47,33%	56,45%	55,82%	34,77%	47,08%	68,20%
TOTAL SOCIAL PUBLIC EXP/ TOTAL PUBLIC EXP	37,82%	44,24%	36,27%	28,59%	36,44%	31,06%	20,74%	31,84%	49,91%

Data for 2000 year, except Ireland (1997), UK (1998) and Denmark (2001)
Source: IMF (2004)

It is highly relevant to identify factors that shape the support for income redistribution in society. It looks reasonable that a lesser "necessity" of equality implies, in general, a smaller preference for redistribution and, therefore, a smaller support towards the

social programs. On the other hand, social groups will support more redistribution if they expect to get benefits out of it in the near future. But there are many possible factors that go beyond traditional economics such as ideology, political interest, fairness perceptions or reciprocity or trust in institutions that seemed to be useful to consider.

In this paper we try to determine individuals' preferences for equality, working with micro data from the 4th wave of *World Values Survey* (1999-2001) focusing on Spain (data collected in 2000). According the authors knowledge, studies that investigate this type of studies are practically inexistent for Spain. Furthermore, the political structure in Spain is very decentralized which makes sub-central governments (mainly, the Autonomous Communities), jointly with the central government, an essential part in the social policy process of solidarity and equality.

Table 2.- Social expenditures / Total regional public expenditures (%)

AUTONOMOUS COMMUNITY	2000	2001
ANDALUCIA	63,72%	61,14%
ARAGÓN	47,48%	49,76%
ASTURIAS	57,32%	59,04%
CANARIAS	77,66%	78,20%
CANTABRIA	61,35%	63,37%
CASTILLA - LEÓN	54,49%	52,81%
CASTILLA - MANCHA	42,88%	41,59%
CATALUÑA	65,14%	63,06%
COMUNIDAD VALENCIANA	80,32%	79,41%
EXTREMADURA	48,68%	50,20%
GALICIA	67,95%	66,19%
ILLES BALEARS	64,97%	66,04%
LA RIOJA	62,40%	62,69%
MADRID	72,29%	67,96%
MURCIA	66,88%	67,09%
NAVARRA	50,86%	51,92%
PAÍS VASCO	72,59%	67,53%
Total Autonomous Communities	65,00%	63,47%

Source: BADESPE (Spanish Ministry of Economy and Finance)

Table 2 shows that social expenditure in Autonomous Communities is almost 2/3 of the total public expenditure, mainly in Health and Education policies.

In Section II, after discussing some previous notions related with equality, the data, the model and previous findings are presented. In Section III we show the main empirical findings, and Section IV finishes with some concluding remarks.

II. THEORETICAL APPROACH AND TESTABLE PREDICTIONS

1. Previous concepts

In this context, it is difficult to delimit the accurate notion we want to explain, because it is possible to find some linked concepts. In this respect, several notions such as equality, equity, justice, solidarity or redistribution have been analyzed in the literature. All of them are related to governmental interventionism. Sometimes, it seems difficult to distinguish them. Let us give some brief definitions of those principles, and subsequently we will show some recent papers, which have focused on some of them.

The concept of *equality* means the absence of discrimination, segregation or privileges among people. Human beings have primary differences on sex, age, social condition, physical or ethnic characteristics, but all are equal in their dignity and human nature. Equality means that all deserve the same treatment. From an economic perspective, it means that incomes would be shared in a homogeneous way, so governments would have to contribute to reduce the strong income differences. The notion of *equity* has come to replace

the more radical notion of equality, which means something like equality of individual opportunities. If the aim of equality, in a broad sense, is to reduce socio-economic distances among categories, equity only entails a minimum floor, which ensures the same opportunities in the beginning. In that sense, equality would be a floor and also a ceiling, that is, not only poor people should be less poor but the rich ones should also be less rich.

Regarding *justice* principle, there are many different notions related to it but all of them finish with the general principle of equality before the application of the law. Those statements imply that every person should receive what is according to his/her merits or demerits. In other words, justice tries to reduce or eliminate differences among individuals in order to get equity and guarantee the same rights and duties to all people.

The concept of *solidarity* is opposed to individualism and selfishness. In practice, solidarity tries to support the most deprived people by means of monetary grants and public social expenditure. In that sense, the society contributes to poorer people to satisfy their basic necessities and requirements. In fact, solidarity involves a social compromise with disfavored people and thus requires a broad consensus over redistribution.

Finally, the notion of *redistribution* is the completion of the solidarity principle and it implies the existence of a public sector with broad ability for collecting taxes and expending those funds in social aims.

Clark (1998) starts from the assumption that solidarity is an ‘anomalous’ individual behavior, given the fact that people would try to maximize their own earnings. However, many subjects prefer a certain level of redistribution, either due to their particular

preferences or errors in solving economic problems. The author's hypothesis is that people with preferences for equality will perform worse in optimization problems because they are more likely to rely upon sub-optimal heuristics. In addition, they would be more persistent in their wrong conducts. Three different experiments were run with 80 individuals so as to test for the previous propositions. In the first one, individuals have to choose between two alternative plans for a public good allocation. The only difference is the costs they imply. In one of them, poor people pay more than high-income individuals (regressivity) and, in the other, they pay less (progressivity). The second experiment has to do with probabilistic reasoning, that is, the process by which individuals learn about probabilities and use them in solving a variety of problems. In this context, the author compares two strategies in a probabilistic game of prediction. He previously had assumed that individuals with preferences for equality would not perform more poorly at probabilistic reasoning. Finally, Clark (1998) examines the deductive reasoning (the ability to correctly deduce conclusions from given information) as a tool for optimization¹.

Arts and Gelissen (2001) speak about notions of solidarity and some principles of distributive justice. In order to measure those aspects, they defined some dependent variables measuring individual preferences in a multi-country analysis. To measure the *solidarity* levels, they use information about the level of government's responsibility in several fields, such as providing jobs, health care, decent standards of living, decent housing, reduce income differences or give financial help to college in those cases of real needs. Regarding distributive justice principles, they asked individuals about their opinion related

¹ Regarding probabilistic reasoning, Clark (1998) arrives to the conclusion that there is no a significance difference in strategies chosen by low-income and high-income people. With regard to the deductive reasoning he found that people with preferences for equality are not necessarily worse at deductive reasoning than those without.

to the characteristics that might have a hypothetic “just” society. The individuals value the importance of eliminating inequalities in income among citizens (*equality*), of guaranteeing some basic needs for all in terms of food, housing, clothing, education and health (basic *needs* or *preferential goods*) and of recognizing people on their merits (*justice/equity*).

As a novelty, Corneo and Grüner (2000) investigated empirically individuals’ attitudes toward political redistribution using the International Social Survey Programme (ISSP), Social Inequality II (1992) focusing on U.S. data. To measure such attitudes, they used a question that asks individuals whether they agree with the statement that it is governments’ responsibility to reduce income differences between people with high and low incomes.

Similarly, Alesina et al. (2001) studied the preferences for redistribution using the General Social Survey (GSS) that asks individuals’ how much they support increased spending on welfare, which helps to see individuals’ perceptions about the ideal spending on welfare relative to current spending. This helps to measure individuals’ preferences for a welfare state.

Fong (2001) use data from the 1998 Gallup Poll Social Audit Survey, ‘Haves and Have-Not Perceptions of Fairness and Opportunity,’ corresponding to a random sample of 5001 respondents. Nevertheless, the main sub-sample (2738 individuals) only includes people who are in labor force and respond to all of the questions used in the regression. The author tests various hypotheses about why people support or oppose redistribution, but the primary focus is the role of beliefs about self- and exogenous-determination on reported redistributive policy preferences. Intuitively, self-determination can be influenced by a

reciprocity principle. Individuals support redistribution because they expect that in the future they could be recipients of solidarity. Alternatively, exogenous-determination is closer to the equity principle itself and it has to do with a broad conception of social cohesion. The dependent variable in the model is an index of several questions on redistribution and the way it should be implemented (e.g., with high taxes, with private aid organization etc.).

Corneo and Grüner (2002) try to identify the determinants of individual preferences for income redistribution in a society. They test for different hypotheses, which could explain the support for redistribution by taking into account three social perceptions. First, the so-called '*homo oeconomicus* effect', inducing an individual to prefer a redistributive program A instead of another one B if and only if the individual's net income is higher under A than under B. The second hypothesis or 'public values effect' goes beyond the private benefit and it induces individuals to support a redistributive program if it is well suited with their vision of the society as a whole. Thirdly, the 'social rivalry effect' takes into account the relative position of the person in society and the prestige of her or his occupation. The authors use data from the International Social Survey Programme, corresponding to 12 countries in Europe, America and Oceania in 1992. They run logit estimates, taking as the latent variable the personal agree or disagree with government's responsibility on income redistribution. The more positive the answer to this question is, the more intense the individual preferences for redistribution are.

2. Data and Model

Although different concepts and notions have been presented in Section II, we focus in the empirical part on preferences towards income equality. The data used in the empirical

part is taken from 4th wave of the World Values Survey² (WVS). The WVS is a worldwide investigation of socio-cultural and political change, based on representative national samples. Although data from these surveys are made publicly available, economists have just started to work with the WVS. We are going to take advantage of this source in order to analyze individuals' preferences for equality in Spain. The representative sample was collected in 2000 and the following question. In the survey people were asked about the appropriate level of income equality, using a scale from 1 to 10 (1= Income should be made more equal, 10= We need larger income differences as incentives for individual effort). To measure individuals' preferences for income *equality*, the ten-point scale has been recoded in reverse order (10=1; 1=10). The model to measure individuals' preferences for income equality is specified as follows:

$$EP_i = \beta_0 + \beta_1 \cdot SOCIODEM_i + \beta_2 \cdot EDUC_i + \beta_3 \cdot ECONSIT_i + \beta_4 \cdot EMPLOY_i + \beta_5 \cdot IDSC_i + \beta_6 \cdot LOC_i + \varepsilon_i$$

EP_i indicates individual's i preferences for equality. The independent variables considered are shown in *Table 3*. As can be seen, a broad set of variables is included in the estimations.

² It was first carried out in 1981-83, and subsequently in 1990-91, 1995-96 and 1999-2001.

Table 3.- Independent Variables

INDEPENDENT VARIABLE	KIND OF VARIABLE	CATHEGORIES
<u>Socio-Demographic Factors (SOCDEM)</u>		
AGE	Dummy	<30 (r.g); 30-39; 40-49; 50-59; 60-69; >70
GENDER	Dummy	MALE (r.g.) FEMALE
MARITAL STATUS	Dummy	MARRIED; OTHER (r.g.)
<u>Formal and Informal Education (EDUC)</u>		
EDUCATION	Dummy	MIDDLE EDUCATION; UPPER EDUCATION; OTHER (r.g.)
IMPORTANCE OF POLITICS	Scaled	1 = <i>not at all important</i> to 4 = <i>very important</i>
<u>Economic Situation (ECONSIT)</u>		
FINANCIAL SATISFACTION	Scaled	1 = <i>dissatisfied</i> to 10 = <i>satisfied</i>
ECONOMIC CLASS	Dummy	UPPER CLASS;UPPER MIDDLE CLASS; LOWER MIDDLE CLASS; WORKING/LOWEST CLASS (r.g.)
<u>Occupational status (EMPLOY)</u>		
EMPLOYMENT STATUS	Dummy	SELFEMPLOYED; UNEMPLOYED; OTHER (r.g.)
<u>Ideology and Social Capital (IDSC)</u>		
RIGHT POLITICAL ORIENTATION	Scaled	1 = <i>left</i> to 10 = <i>right</i>
OTHERS TAKE ADVANTAGE	Dummy	WOULD TAKE ADVANTAGE; WOULD TRY TO BE FAIR (r.g.)
TRUST IN THE PARLIAMENT	Scaled	1 = <i>not at all</i> to 4= <i>a great deal</i>
TRUST IN THE GOVERNMENT	Scaled	1 = <i>not at all</i> to 4= <i>a great deal</i>
RELIGION DENOMINATION	Dummy	RELIGION DENOMINATION; NO RELIGION DENOMINATION (r.g.)
<u>Location variables (LOC)</u>		
SIZE OF TOWN	Dummy	UNDER 2,000 (r.g.); 2,000-5,000; 5,000-10,000; 10,000- 20,000; 20,000-50,000; 50,000-100,000; 100,000-500,000; 500,000 and MORE
SPANISH REGION	Dummy	17 SPANISH AUTONOMOUS REGIONS: MADRID (r.g.)

First of all, almost all the studies have considered a bundle of *socio-demographic and economic* variables, which have an important influence on this issue. Some usual factors included in this kind of studies are AGE and GENDER. Arts and Gelissen (2001) show that as that a higher age is correlated with stronger preferences for equality and equity, but on the other hand older people are less in favor of a public provision of preferential goods and services. Regarding gender, Arts and Gelissen (2001) found that women are more inclined

to support a high level of solidarity and public provision of basic needs. However, Alesina et al. (2001) did not obtain significant differences between men and women's redistribution preferences. On the other hand, Fong (2001) found that men had lower preferences for redistribution. Similar, Corneo and Grüner (2002) identified female and old people as the most likely to promote income redistribution.

MARITAL STATUS is another aspect that has been considered. Alesina et al. (2001) found that married people have less preference to increase welfare spending. Fong (2001) obtains similar conclusions, showing that married people are all significantly less supportive of redistribution than their counterparts. However, Corneo and Grüner (2002) found that marital status has not a statistically significant effect in the regressions.

The formal EDUCATION of individuals is important in this context. However, the literature also presents mixed results. Fong (2001) shows that individuals with a college education or more were less supportive towards redistribution. Arts and Gelissen (2001) observed that there was a negative correlation between the educational level and the preference for solidarity, equality or equity, but positive in the case of the public provision of basic needs. Alesina et al. (2001) found a positive relationship between the support to increase the welfare state and the level of education. However, that positive relationship was non-monotonic, because high school dropouts demand more welfare spending than high school graduates, but people with graduate degrees have higher preferences for welfare spending than high school dropouts. In that case, the relationship between preferences for equality and educational level would not be strictly increasing.

It can also be supposed that informal education matters. However, it surprises that variable has not been investigated in detail. It is possible that well-informed citizens, have *ceteris paribus* a higher preferences for equality, because they are better aware of the income inequality problems. Thus, it is not only interesting to investigate formal education but also informal education. One possibility to measure informal education is to find a proxy for individuals' political interest. Thus, we include the IMPORTANCE OF POLITICS³ in the estimations.

Individual's income level may also be a key variable. Therefore, we have considered the individual's ECONOMIC CLASS⁴. The expected relationship between economic status and support for equality is negative, and the literature confirms that hypothesis (Clark, 1998; Alesina et al. 2001; Arts and Gelissen 2001; Corneo and Grüner 2002). The majority of studies show that low-income people are very prone towards redistribution. Fong (2001) showed that individuals whose familiar income is very high are significantly less supportive of redistribution than those with low incomes. Corneo and Grüner (2000) found strong support that value differentials across income classes have an impact on attitudes toward political redistribution. Corneo and Grüner (2002) include a dummy variable equal one for those individuals that think their income goes up when inequality is reduced, and zero otherwise. The coefficient of this variable is positive and significantly different from zero, showing that the support to redistributive programs grows if the expected net income is positive. However, it has been found that a significant proportion of high-income people vote a lower level of inequality, even though this reduces their final income (Clark, 1998).

³ Question: 'How important is politics in your life?'

⁴ It was not possible to include INCOME in the estimations due to the high number of missing values.

Individuals' preference for equality may also depend on the financial satisfaction and not only per se on the level of income. To consider this, we include the variable FINANCIAL SATISFACTION⁵.

Another variable is the individual's OCCUPATIONAL STATUS. For example, it can be expected that unemployed people have stronger preferences for solidarity and some justice distributive principles⁶ (Arts and Gelissen 2001).

Ideology and social capital are important too (IDSC). This brings us to a further factor that is connected to politics⁷. The party individuals vote for and their ideology are important aspects too. It is a well-known fact that left party voters show higher preferences for redistribution and government initiatives. Thus, we use the degree of RIGHT POLITICAL ORIENTATION⁸ as a proxy for ideology. Moreover, we have included citizens' TRUST IN GOVERNMENT and TRUST IN PARLIAMENT as independent factors. This variable is strongly connected to individuals' ideology and their impact may depend on the current situation or in other words the current political regime.

⁵ Including both factors (economic situation and financial satisfaction) does not oppose collinearity problem as r is far below critical values.

⁶ In a more elaborated way, Corneo and Grüner (2002) included three variables that link the social prestige of different occupations with the social standing or economic class. As expected, the model shows that this effect is negative, confirming that social status is an additional incentive for redistribution.

⁷ At country/state/city level, political institutions matter. For example, the electoral system can condition the size of welfare state. In some cases, it has been observed a positive relationship between the proportionality of the electoral system and the amount of government transfers (Alesina et al, 2001).

⁸ Question: 'In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking? Scale from 1 to 10'.

In Spain, José Maria Aznar, member of the right wing Popular Party PP, was reelected president in March 2000. His party Popular Party (PP) obtained an absolute majority of seats in both the Congress of Deputies and the Senate as a result of the March 2000 elections. Traditionally, right wing parties program are less inclined to support redistribution programs. Taking into account that the survey was conducted in November 2000, it can be argued that trust also proxies citizens' acceptance with current political programs. Thus, we would expect negative correlation between preferences towards' income equality and trust in the government and the parliament.

Additionally, we control for individuals' RELIGION DENOMINATION. In our data, around 83 percent of the population has a religion denomination. In general, we expect that people, who believe in God or are member of a church or religious organization, have stronger preferences for solidarity and equality. However, having a religion per se is not an indicator for religiosity or church involvement. Furthermore, being a minority (17 percent of the population) may lead to higher preferences towards equality in general and thus also to higher preferences to reduce income inequality.

Linked to the previous issue, we have considered an additional factor that is related to reciprocity or fairness. The individuals' preferences for redistribution depend on the perception about the society. If they feel that the society in general (and thus also the ones who receive support) takes advantage and does not try to be fair, their willingness to improve income equality decreases. For example, if individuals believe that the poor are

taking advantage of the system, they will be against redistribution policies⁹ (Alesina et al. 2000). Therefore, we have included a proxy that measures individuals' lack of trust towards society (TAKE ADVANTAGE)¹⁰.

Finally, we include two spatial variables. The intensity of welfare programs and the level of inequality in a specific place an individual lives can explain individual's preferences towards redistribution and equality. On the one hand, we have considered the SIZE OF TOWN, including several dummy variables. Alesina et al. (2001) finds a positive relationship between the size of town and the support to increase welfare. As we can see in the *Table 4*, Spanish local governments in big cities spend strong the efforts to improve social problems are the most intensive due to the high level of income inequality levels.

⁹ Alesina et al. (2001) showed that people who believed that blacks were lazy, are less motivated to favour redistribution policies. Corneo and Grüner (2002) used a dummy variable that equals one for individuals who think that hard work is at least fairly important for getting ahead in life, and zero otherwise. The coefficient of this variable is negative and highly significant, meaning that people who think that income is very elastic with respect to individual effort are less likely to support income redistribution programs.

¹⁰ Question: 'Do you think most people would try to take advantage of you if they got a chance, or would they to be fair?'

Table 4.- Social public expenditures in Spanish municipalities

POPULATION	TOTAL SOCIAL EXPENDITURES (in €)	NUMBER OF MUNICIPALITIES	TOTAL POPULATION	SOCIAL EXPENDITURES PER CAPITA (in €)
LESS THAN 5.000	2,775,990,000	6,926	6,114,592	453.99
5-10.000	1,498,044,000	517	3,532,517	424.07
10-20.000	2,045,032,000	337	4,704,465	434.70
20-50.000	2,566,208,000	205	6,070,295	422.75
50-100.000	1,831,641,000	66	4,458,891	410.78
100-500.000	3,926,919,000	51	9,791,066	401.07
500.000 AND MORE	3,637,073,000	6	7,166,068	507.54

Data for 2002 year

Source: own elaboration from INE (2005) and MEH (2005)

The survey also provides information in which Spanish region and individual lives. Thus, we control for regional differences building dummies for all 17 SPANISH REGIONS (Autonomous Communities). The character or political orientation of the government is an issue that can have influence on individual's valuations¹¹ (Esping-Andersen 1994; 1999). So, on the one side, in 1999, some regions had a right political orientation government. That was the case of Aragón, Asturias, Baleares, Castilla-León, Cantabria, Comunidad Valenciana, Galicia, Madrid, Murcia and La Rioja. In those cases, one expects to find lower values of EP. On the other side, the regional equality levels matter too. If the inequality in the region is not too high, it can expected that people do not demand additional redistribution policies for improving equality issues.

¹¹ Arts and Gelissen (2001) consider six groups of countries, depending on their welfare state regimen¹¹. They observe that individuals who live in conservative and social-democratic governments had higher preferences for solidarity.

Table 5.- Income inequality in Spanish Autonomous Communities

REGION	GINI INDEX	GE (c=0)	GE (c=1)	GE (c=2)	ATK ($\varepsilon = 1$)	ATK ($\varepsilon = 2$)
Andalucia	0.295	0.1414	0.1518	0.1934	0.1319	0.2379
Aragon	0.279	0.1301	0.1269	0.1404	0.1220	0.2357
Asturias	0.266	0.1203	0.1208	0.1397	0.1134	0.2196
Baleares	0.258	0.1126	0.1099	0.1208	0.1065	0.2060
Cataluña	0.265	0.1143	0.1149	0.1292	0.1080	0.2031
Canarias	0.286	0.1329	0.1324	0.1486	0.1244	0.2322
Cantabria	0.284	0.1376	0.1350	0.1542	0.1286	0.2486
Castilla-Leon	0.283	0.1298	0.1309	0.1486	0.1217	0.2263
Castilla-La Mancha	0.230	0.0854	0.0868	0.0964	0.0818	0.1550
Extremadura	0.268	0.1127	0.1208	0.1439	0.1066	0.1881
Galicia	0.261	0.1102	0.1135	0.1312	0.1044	0.1941
Rioja	0.258	0.1070	0.1091	0.1226	0.1015	0.1884
Madrid	0.286	0.1341	0.1336	0.1505	0.1255	0.2342
Murcia	0.240	0.0941	0.0950	0.1058	0.0898	0.1711
Navarra	0.253	0.1048	0.1029	0.1113	0.0995	0.1906
Pais Vasco	0.246	0.0976	0.0953	0.1009	0.0930	0.1791
Pais Valenciano	0.266	0.1147	0.1152	0.1290	0.1084	0.2063
SPAIN	0.282	0.1293	0.1309	0.1507	0.1213	0.2263

Data for 2000 year

Source: Ayala-Cañón et al. (2005)

III. EMPIRICAL RESULTS

The ordered probit models are relevant in such an analysis insofar as they help analyze the ranking information of the scaled dependent variable. However, as in the ordered probit estimation, the equation has a nonlinear form, only the sign of the coefficient can be directly interpreted and not its size. Calculating the marginal effects is therefore a method to find the quantitative effect a variable has on individuals' preferences towards income equality. The marginal effect indicates the change in the share of citizens (or the probability of) belonging to a specific level, when the independent variable increases by one unit. Only the marginal effects for the highest preference towards equality are presented. To check the robustness of the results, in weighted least squares models are presented using preferences towards income equality as a cardinal variable. Furthermore, it should be

noticed that answers as “don’t know” and missing values have been eliminated in all estimations. Weighted estimations have been considered to correct the sample and thus to get a reflection of the national distribution. For the least squares estimations we also estimate *beta* or *standardized* regression coefficients. This allows to compare the magnitude and thus helps to see the relative importance of the used variables.

Table 6 presents regressions using the variables TRUST IN THE GOVERNMENT (estimations 1, 4) and TRUST IN THE PARLIAMENT (2, 3) separately in the estimations due to a high correlation among both variables ($r=0.64$) and as mentioned differentiating between ordered probit (estimations 1 and 2) and least squares estimations (3 and 4). In a next step we include in *Table 7* the variables ideology (RIGHT POLITICAL ORIENTATION) in the estimation 5 and 7 and the perception about others selfish behavior (OTHERS TAKEADVANTAGE) in estimations 6 and 8. We had to include the variables sequentially in the estimations, due to the relatively higher number of missing values.

Table 6.- Preferences for Equality in Spain (I)

<i>DEPENDENT VARIABLE:</i> <i>PREFERENCES TOWARDS INCOME</i> <i>EQUALITY (INCOMES MORE EQUAL)</i>	<i>weighted</i> <i>ordered probit</i>			<i>weighted</i> <i>ordered probit</i>			<i>weighted</i> <i>least squares</i>			<i>weighted</i> <i>least squares</i>		
	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i> <i>Effects</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg.</i> <i>Effects</i>	<i>Coeff.</i>	<i>t-Stat.</i>	<i>Beta</i>	<i>Coeff.</i>	<i>t-Stat.</i>	<i>Beta</i>
<i>INDEPENDENT V.</i>	<i>1</i>			<i>2</i>			<i>3</i>			<i>4</i>		
<u>Socio-Demographic Factors (SOCDEM)</u>												
AGE												
AGE 30-39	0.194 **	1.95	0.046	0.180 *	1.79	0.042	0.506 *	1.92	0.069	0.551 **	2.10	0.075
AGE 40-49	0.053	0.47	0.012	0.052	0.46	0.012	0.117	0.40	0.015	0.128	0.43	0.016
AGE 50-59	0.083	0.70	0.019	0.053	0.45	0.012	0.185	0.59	0.023	0.265	0.85	0.032
AGE 60-69	0.088	0.70	0.020	0.089	0.70	0.020	0.222	0.68	0.027	0.230	0.71	0.028
AGE 70+	0.206 *	1.61	0.050	0.246 *	1.89	0.059	0.620 *	1.85	0.069	0.525	1.59	0.059
GENDER												
FEMALE	-0.014	-0.21	-0.003	-0.008	-0.13	-0.002	-0.005	-0.03	-0.001	-0.022	-0.13	-0.004
MARITAL STATUS												
MARRIED	-0.101	-1.37	-0.022	-0.102	-1.37	-0.022	-0.331 *	-1.71	-0.058	-0.325 *	-1.71	-0.057
<u>Formal and Informal Education (EDUC)</u>												
EDUCATION												
MIDDLE EDUCATION	-0.127	-1.54	-0.027	-0.151 *	-1.82	-0.032	-0.379 *	-1.75	-0.061	-0.328	-1.53	-0.052
UPPER EDUCATION	-0.269 **	-2.48	-0.054	-0.249 **	-2.28	-0.050	-0.663 **	-2.33	-0.086	-0.728 ***	-2.58	-0.093
IMPORTANCE OF POLITICS	0.154 ***	3.96	0.034	0.172 ***	4.32	0.038	0.436 ***	4.35	0.138	0.392 ***	3.99	0.124
<u>Economic Situation (ECONSIT)</u>												
FINANCIAL SATISFACTION	-0.047 ***	-2.58	-0.010	-0.046 **	-2.48	-0.010	-0.114 **	-2.49	-0.080	-0.115 **	-2.56	-0.081
ECONOMIC CLASS												
UPPER CLASS	-0.564	-1.52	-0.090	-0.629 *	-1.66	-0.095	-1.460	-1.40	-0.040	-1.289	-1.25	-0.035
UPPER MIDDLE CLASS	-0.207 **	-2.04	-0.043	-0.210 **	-2.03	-0.043	-0.575 **	-2.14	-0.078	-0.559 **	-2.12	-0.075
LOWER MIDDLE CLASS	-0.188 **	-2.42	-0.040	-0.195 **	-2.49	-0.041	-0.472 **	-2.36	-0.079	-0.457 **	-2.29	-0.076
<u>Occupational status (EMPLOY)</u>												
EMPLOYMENT STATUS												
SELFEMPLOYED	-0.126	-0.95	-0.026	-0.099	-0.74	-0.021	-0.205	-0.58	-0.018	-0.295	-0.84	-0.025
UNEMPLOYED	-0.052	-0.40	-0.011	-0.061	-0.48	-0.013	-0.143	-0.43	-0.014	-0.126	-0.38	-0.012
<u>Ideology and Social Capital (IDSC)</u>												

TRUST IN THE PARLIAMENT				-0.114 **	-2.56	-0.025	-0.274 **	-2.37	-0.076			
TRUST IN THE GOVERNMENT	-0.099 **	-2.26	-0.022							-0.252 **	-2.23	-0.073
RELIGION DENOMINATION	-0.283 ***	-2.90	-0.070	-0.293 ***	-3.02	-0.071	-0.620 **	-2.56	-0.080	-0.589 **	-2.42	-0.075
<u>Location variables (LOC)</u>												
<u>SIZE OF TOWN</u>												
2,000 - 5,000	-0.284 *	-1.68	-0.055	-0.272	-1.58	-0.052	-0.652	-1.48	-0.063	-0.689 *	-1.60	-0.066
5 - 10,000	-0.624 ***	-3.84	-0.104	-0.636 ***	-3.87	-0.103	-1.555 ***	-3.75	-0.163	-1.529 ***	-3.74	-0.161
10 - 20,000	-0.365 **	-2.50	-0.069	-0.389 ***	-2.58	-0.071	-0.922 **	-2.33	-0.099	-0.864 **	-2.25	-0.093
20 - 50,000	-0.267 *	-1.68	-0.053	-0.281 *	-1.74	-0.055	-0.579	-1.40	-0.067	-0.558	-1.37	-0.064
50 - 100,000	-0.297 *	-1.86	-0.058	-0.310 *	-1.91	-0.059	-0.690 *	-1.67	-0.078	-0.692 *	-1.70	-0.077
100 - 500,000	-0.075	-0.52	-0.016	-0.069	-0.47	-0.015	-0.020	-0.05	-0.003	-0.039	-0.11	-0.006
500,000 and more	-0.336 **	-2.14	-0.066	-0.361 **	-2.24	-0.069	-0.791 **	-1.97	-0.106	-0.737 *	-1.87	-0.098
<u>SPANISH REGION</u>												
Andalucia	-0.150	-1.31	-0.032	-0.181	-1.55	-0.037	-0.416	-1.40	-0.055	-0.345	-1.19	-0.046
Aragon	-0.366	-1.46	-0.067	-0.372	-1.45	-0.066	-0.766	-1.26	-0.047	-0.772	-1.29	-0.047
Asturias	-0.813 ***	-4.15	-0.115	-0.827 ***	-4.15	-0.113	-1.997 ***	-3.88	-0.123	-1.970 ***	-3.86	-0.119
Baleares	-0.463 **	-1.69	-0.079	-0.466 **	-1.65	-0.078	-1.323 **	-1.81	-0.067	-1.310 **	-1.84	-0.067
Cataluña	-0.741 ***	-6.05	-0.124	-0.711 ***	-5.80	-0.118	-1.908 ***	-6.18	-0.249	-1.992 ***	-6.46	-0.258
Canarias	-0.755 ***	-4.25	-0.111	-0.692 ***	-3.75	-0.103	-1.707 ***	-3.46	-0.108	-1.876 ***	-3.95	-0.121
Cantabria	-0.154	-0.43	-0.031	-0.234	-0.65	-0.045	-0.405	-0.44	-0.016	-0.156	-0.17	-0.006
Castilla-Leon	-0.440 ***	-2.90	-0.078	-0.456 ***	-2.95	-0.079	-1.139 ***	-2.88	-0.099	-1.108 ***	-2.83	-0.095
Castilla-La Mancha	-0.747 ***	-4.37	-0.110	-0.746 ***	-4.25	-0.108	-1.808 ***	-3.98	-0.127	-1.821 ***	-4.09	-0.126
Extremadura	-0.075	-0.31	-0.016	-0.200	-0.78	-0.039	-0.507	-0.72	-0.026	-0.199	-0.30	-0.011
Galicia	-0.708 ***	-4.40	-0.110	-0.682 ***	-4.15	-0.105	-1.645 ***	-4.07	-0.143	-1.709 ***	-4.30	-0.150
Rioja	-1.265 ***	-2.78	-0.132	-1.288 ***	-2.79	-0.130	-3.124 ***	-2.92	-0.095	-3.091 ***	-2.91	-0.092
Murcia	-0.284 **	-1.95	-0.054	-0.255 *	-1.66	-0.049	-0.541	-1.25	-0.031	-0.644	-1.57	-0.036
Navarra	-0.177	-0.50	-0.036	-0.231	-0.63	-0.044	-0.548	-0.58	-0.023	-0.419	-0.46	-0.017
Pais Vasco	-0.810 ***	-4.10	-0.118	-0.847 ***	-4.19	-0.118	-2.078 ***	-4.28	-0.168	-1.994 ***	-4.16	-0.160
Pais Valenciano	-0.951 ***	-6.93	-0.135	-0.990 ***	-7.03	-0.136	-2.513 ***	-7.15	-0.264	-2.426 ***	-7.01	-0.253
(Pseudo) R2	0.036			0.036			0.150			0.149		
Number of observations	1072			1098			1072			1098		
Prob > chi2 / Prob > F	0.000			0.000			0.000			0.000		

*, **, *** Significantly different from zero at the 0.10, 0.05, 0.01 significance level

Table 7.- Preferences for equality in Spain (II)

<i>DEPENDENT VARIABLE:</i> <i>PREFERENCES TOWARDS INCOME</i> <i>EQUALITY (INCOMES MORE EQUAL)</i>	<i>weighted</i> <i>ordered probit</i> <i>Coeff. z-Stat. Marg.</i> <i>Effects</i>			<i>weighted</i> <i>ordered probit</i> <i>Coeff. z-Stat. Marg.</i> <i>Effects</i>			<i>weighted</i> <i>least squares</i> <i>Coeff. t-Stat. Beta</i>			<i>weighted</i> <i>least squares</i> <i>Coeff. t-Stat. Beta</i>		
<i>INDEPENDENT V.</i>	5			6			7			8		
<u>Socio-Demographic Factors (SOCDEM)</u>												
<u>AGE</u>												
AGE 30-39	0.164	1.49	0.036	0.165	1.53	0.039	0.480 *	1.71	0.066	0.489 *	1.74	0.067
AGE 40-49	0.023	0.18	0.005	0.036	0.29	0.008	0.074	0.23	0.010	0.071	0.23	0.009
AGE 50-59	-0.005	-0.04	-0.001	0.018	0.14	0.004	0.033	0.10	0.004	0.102	0.30	0.012
AGE60-69	0.077	0.54	0.016	0.058	0.42	0.013	0.194	0.55	0.024	0.159	0.45	0.019
AGE 70+	0.220	1.54	0.050	0.195	1.37	0.047	0.523	1.46	0.059	0.523	1.42	0.056
<u>GENDER</u>												
FEMALE	0.020	0.28	0.004	0.024	0.34	0.005	0.035	0.20	0.006	0.073	0.41	0.013
<u>MARITAL STATUS</u>												
MARRIED	-0.116	-1.41	-0.024	-0.136 *	-1.65	-0.031	-0.371 *	-1.79	-0.066	-0.411 **	-1.95	-0.071
<u>Formal and Informal Education (EDUC)</u>												
<u>EDUCATION</u>												
MIDDLE EDUCATION	-0.186 **	-2.06	-0.037	-0.168 *	-1.87	-0.036	-0.453 **	-1.98	-0.074	-0.421 *	-1.80	-0.067
UPPER EDUCATION	-0.210 *	-1.74	-0.040	-0.247 **	-2.14	-0.050	-0.525 *	-1.73	-0.071	-0.669 **	-2.24	-0.086
<u>IMPORTANCE OF POLITICS</u>	0.151 ***	3.46	0.031	0.144 ***	3.36	0.032	0.373 ***	3.48	0.119	0.360 ***	3.32	0.113
<u>Economic Situation (ECONSIT)</u>												
<u>FINANCIAL SATISFACTION</u>	-0.045 **	-2.11	-0.009	-0.041 **	-2.07	-0.009	-0.106 **	-2.08	-0.075	-0.098 **	-2.00	-0.069
<u>ECONOMIC CLASS</u>												
UPPER CLASS	-0.406	-1.09	-0.066	-0.747	-1.46	-0.108	-0.758	-0.79	-0.022	-1.780	-1.27	-0.044
UPPER MIDDLE CLASS	-0.182	-1.53	-0.035	-0.223 **	-2.08	-0.046	-0.466	-1.56	-0.063	-0.598 **	-2.15	-0.080
LOWER MIDDLE CLASS	-0.195 **	-2.30	-0.039	-0.239 ***	-2.90	-0.051	-0.467 **	-2.20	-0.079	-0.593 ***	-2.81	-0.098
<u>Occupational status (EMPLOY)</u>												
<u>EMPLOYMENT STATUS</u>												
SELFEMPLOYED	-0.161	-1.15	-0.031	-0.091	-0.64	-0.020	-0.355	-1.00	-0.031	-0.186	-0.50	-0.016
UNEMPLOYED	-0.041	-0.27	-0.008	-0.085	-0.64	-0.018	-0.101	-0.26	-0.010	-0.186	-0.55	-0.019
<u>Ideology and Social Capital (IDSC)</u>												
RIGHT POLITICAL ORIENTATION	-0.085 ***	-3.33	-0.018				-0.206 ***	-3.40	-0.133			

OTHERS TAKE ADVANTAGE				-0.261 ***	-3.58	-0.059				-0.646 ***	-3.45	-0.112
TRUST IN THE PARLIAMENT	-0.091 *	-1.86	-0.019	-0.135 ***	-2.85	-0.030	-0.216 *	-1.75	-0.062	-0.326 ***	-2.66	-0.090
RELIGION DENOMINATION	-0.231 **	-2.20	-0.052	-0.336 ***	-3.20	-0.085	-0.438 *	-1.71	-0.059	-0.740 ***	-2.84	-0.094
<u>Location variables (LOC)</u>												
<u>SIZE OF TOWN</u>												
2,000 - 5,000	-0.179	-0.99	-0.034	-0.258	-1.37	-0.051	-0.411	-0.90	-0.040	-0.615	-1.30	-0.059
5 - 10,000	-0.593 ***	-3.29	-0.092	-0.689 ***	-3.67	-0.112	-1.410 ***	-3.14	-0.150	-1.655 ***	-3.55	-0.170
10 - 20,000	-0.364 **	-2.23	-0.064	-0.453	-2.64	-0.082	-0.852 **	-2.04	-0.096	-1.074 **	-2.41	-0.106
20 - 50,000	-0.192	-1.08	-0.036	-0.366 **	-2.02	-0.070	-0.364	-0.83	-0.042	-0.761 *	-1.67	-0.086
50 - 100,000	-0.241	-1.35	-0.045	-0.383 **	-2.18	-0.073	-0.452	-1.01	-0.050	-0.843 *	-1.90	-0.097
100 - 500,000	0.015	0.09	0.003	-0.129	-0.78	-0.028	0.159	0.40	0.023	-0.151	-0.37	-0.022
500,000 and more	-0.263	-1.49	-0.050	-0.402 **	-2.21	-0.078	-0.532	-1.24	-0.074	-0.877 **	-1.96	-0.118
<u>SPANISH REGION</u>												
Andalucia	-0.237 *	-1.89	-0.045	-0.082	-0.65	-0.018	-0.482	-1.57	-0.061	-0.169	-0.52	-0.022
Aragon	-0.192	-0.67	-0.036	-0.321	-1.24	-0.061	-0.310	-0.48	-0.020	-0.684	-1.12	-0.042
Asturias	-0.843 ***	-4.11	-0.107	-0.823 ***	-3.88	-0.117	-1.955 ***	-3.78	-0.130	-1.987 ***	-3.60	-0.126
Baleares	-0.634 **	-2.05	-0.090	-0.424	-1.49	-0.075	-1.651 **	-2.12	-0.088	-1.224 *	-1.65	-0.066
Cataluña	-0.871 ***	-6.54	-0.128	-0.723 ***	-5.69	-0.125	-2.145 ***	-6.74	-0.286	-1.954 ***	-6.10	-0.261
Canarias	-0.717 ***	-3.67	-0.099	-0.696 ***	-3.43	-0.106	-1.693 ***	-3.31	-0.114	-1.716 ***	-3.13	-0.111
Cantabria	-0.390	-0.95	-0.064	-0.476	-1.18	-0.081	-0.718	-0.66	-0.027	-1.092	-1.10	-0.042
Castilla-Leon	-0.398 **	-2.47	-0.067	-0.464 ***	-2.88	-0.083	-0.897 **	-2.25	-0.083	-1.153 ***	-2.79	-0.101
Castilla-La Mancha	-0.702 ***	-3.57	-0.098	-0.928 ***	-4.82	-0.125	-1.585 ***	-3.19	-0.116	-2.312 ***	-4.64	-0.157
Extremadura	-0.436	-1.26	-0.070	-0.344	-1.20	-0.064	-1.195	-1.34	-0.055	-0.986	-1.27	-0.048
Galicia	-0.672 ***	-3.87	-0.098	-0.712 ***	-4.22	-0.111	-1.536 ***	-3.72	-0.141	-1.740 ***	-4.14	-0.151
Rioja	-1.632 ***	-2.89	-0.126	-1.263 ***	-2.65	-0.134	-3.625 ***	-2.91	-0.108	-3.078 ***	-2.73	-0.098
Murcia	-0.339 *	-1.75	-0.058	-0.322 *	-1.85	-0.060	-0.648	-1.23	-0.034	-0.681	-1.40	-0.035
Navarra	-0.358	-0.80	-0.060	-0.285	-0.69	-0.055	-0.793	-0.73	-0.030	-0.656	-0.61	-0.027
Pais Vasco	-0.784 ***	-3.48	-0.105	-0.900 ***	-4.17	-0.125	-1.871 ***	-3.50	-0.140	-2.226 ***	-4.33	-0.175
Pais Valenciano	-0.992 ***	-6.54	-0.129	-1.052 ***	-6.51	-0.141	-2.360 ***	-6.49	-0.266	-2.642 ***	-6.59	-0.252
(Pseudo) R2	0.044			0.043			0.179			0.174		
Number of observations	889			946			889			946		
Prob > chi2 / Prob > F	0.000			0.000			0.000			0.000		

*, **, *** Significantly different from zero at the 0.10, 0.05, 0.01 significance level.

As can be seen in *Table 6* and *7*, most results are robust regarding the estimation methods. The weighted least squares estimations using preferences towards income equality as a cardinal variable offer qualitatively quite similar results as the weighted ordered probit model.

Socio-demographic variables do not have a very strong statistically significant influence on preferences for equality. Only some groups of AGE, such as individuals AGE 30-39 and 70+ appear to have stronger preferences towards income equality compared to the reference group (AGE BELOW 30). Furthermore, we cannot observe gender differences. MARITAL STATUS is sometimes statistically significant, in the sense that married people show lower preferences for income equality.

We observe a negative relationship between formal EDUCATION and EP. In general, people with the highest education (UPPER EDUCATION) also show the lowest preferences to improve income equality. The marginal effects indicate that being in this group rather than in the reference group (lowest level of education) reduces the probability of stating that income should be made more equal by around 5 percentage points. On the other hand, informal education or individuals' political interest measured with the variable IMPORTANCE OF POLITICS is positively correlated and statistically significant with preferences towards income equality. An increase in the importance of politics scale by one unit raises the probability of report that income should be made more equal by more than 3 percentage points. The results remain robust after including ideology and societies' fairness perceptions in *Table 7*. The beta coefficient in the least squares estimations indicates a relatively strong impact of political interest on preferences towards income equality compared to other variables.

Additionally, the economic situation matter too. The results indicate that a higher level of FINANCIAL SATISFACTION leads to a lower preference for income equality. This result remains robust after controlling for individuals' perception about their ECONOMIC CLASS status. The marginal effects indicate that an increase in the financial satisfaction by one scale reduces the share of people stating that income should be made more equal by around 1 percentage point. The economic class variables indicate that the lowest class has the highest preferences towards equality. However, the effect is non-linear as the coefficient for the highest economic class is in most of the cases not statistically significant. Finally, statistically significant differences among the EMPLOYMENT STATUS were not observable.

Table 6 indicates that ideology has an impact on our dependent variable. Individual's RIGHT POLITICAL ORIENTATION is negatively correlated with EP with a marginal effect of 1.8 percentage points. The beta coefficient reported in estimation 7 also shows a strong relative impact of ideology on EP. It looks as if people with right political orientation are more in favor of preserving the economic results linked to the personal effort rather than improving the income equality situation. Furthermore, a higher TRUST IN THE PARLIAMENT and the GOVERNMENT leads to a lower EP with marginal effects around 2 percentage points. The result is consistent with the ideology, taking into account the right wing government and the strong representation of the right wing in the parliament in November 2000. Furthermore, it can be argued that people with a lower trust in these institutions have a higher demand to improve the (social) situation in Spain. Interestingly, people without a religion denomination have the strongest preferences to improve income inequality, perhaps due to the fact that they are a minority in Spain. Having a religion is not connected to the level of religiosity or church involvement. However, we also investigate

whether church attendance¹² or religiosity¹³ have an impact on preferences towards equality. The results indicate that church attendance is positively correlated with EP and religiosity negatively, but in both cases far away of being statistically significant for all conducted estimations presented in *Table 5* and *6*.

Finally we take a look at spatial variables. Looking at the SIZE OF TOWN, we observe that the reference group (size below 5.000) has the strongest preferences for income equality. A strong familiarity among the citizens in such small towns (or better village) can be expected which may explain such preferences. On the other hand, we find that the lowest preferences towards income equality in towns with a population size 5.000 to 10.000 and 10.000 to 20.000 inhabitants. Moreover, the results about regional dummies are very interesting too. We find negative coefficients in some SPANISH REGIONS, and the majority of those regions are characterized by having right wing governments and inequality levels below national level (INE, 2004). Another important finding is that those regions under nationalist governments, País Vasco and Cataluña, present low preferences for equality. Both regions are characterized by high-income levels too.

IV. CONCLUSIONS

Although there are a couple of papers that investigate the factors that influence preferences for income equality and redistribution programs, we still know very little about people's

¹² Question: Apart from weddings, funerals and christenings, about how often do you attend religious services these days? 8=More than once a week, 1= Never, practically never.

¹³ Independently of whether you go to church or not, would you say you are 3=A religious person, 2=Not a religious person, 3=A convinced atheist.

preferences about the distribution of income in society. There is especially a lack of papers related to a country and its regions. Thus, this paper has the aim to reduce such shortcomings using *World Values Survey* data focusing on Spain (year 2000). Furthermore, the paper has the aim to search empirically for factors that have been strongly neglected in previous studies, such as, for example, informal education, perceptions about societies' fairness, trust in institutions. Thus, compared to many previous studies, we have presented a richer set of independent variables to better isolate the impact of a specific variable on individuals' preferences for improving income inequality.

In general we find that socio-demographic factors (age, gender) have a low impact on our dependent variable. On the other hand, variables such as economic status, education, political interest, ideology, trust in institution and perceptions about individuals' fairness matter. Better-educated people are less in favor to redistribute and reduce inequality. Additionally, a higher political interest (importance of politics) is strongly correlated with preferences towards income equality. Surprisingly, this factor, which can also be seen as a proxy for informal education, has not been investigated in detail in previous studies.

We also find that ideology matters. Right political orientation is correlated with a lower willingness to reduce income inequality. Furthermore, trust in the government and the parliament is associated with lower preferences towards income equality. This result cannot be interpreted without checking the political situation in Spain during the time the survey has been done. Around six months before the survey was conducted in November 2000, José Maria Aznar was re-elected president. His Popular Party (PP) also obtained an absolute majority of seats in both the Congress of Deputies and the Senate as a result of the March 2000 election. Thus, it can be argued that trust is an indicator for citizens' evaluation of the current political program. Traditionally, right wing party programs are less inclined to improve income

inequality than left wing party programs. Thus, it is not a surprise that we observe a negative correlation between trust and our dependent variable. Furthermore, it is possible that people with a lower trust have a stronger preference and demand to improve the (social) situation in Spain.

Interestingly, people without a religion denomination have stronger preferences to improve income inequality than people with a religion denomination, perhaps due to the fact that they are a minority in Spain. On the other hand, religiosity (negative sign) and church attendance (positive correlation) are not statistically significant. Interestingly, if people perceive that others are going to take advantage of them, they are less willing to reduce income inequality. Thus, individuals' perception about others' fairness help to explain preferences towards equality. We also observe that people living in a place with less than 2000 have the strongest aversion against inequality, perhaps due to a higher level of familiarity among other citizens. Finally, looking at Spanish regions, we find that there are lower preferences for income equality in those regions that have right or nationalist governments or inequality levels below the national level.

REFERENCES

- Alesina, A., Baqir, R. and Easterly, W. (1999), "Public goods and ethnic divisions", *Quarterly Journal of Economics* 114, 1243-1284.
- Alesina, A., Baqir, R. and Hoxby, C. (2000), *Political Jurisdictions in Heterogeneous Communities*, NBER Working Paper 7859.
- Alesina, A., Glaeser, E. and Sacerdote, B. (2001), *Why Doesn't the US Have a European-Style Welfare State?*, Harvard Institute of Economic Research Discussion Paper 1933, Harvard University, Cambridge (Massachusetts).

- Alesina, A. and La Ferrara, E. (2000), "Participation in heterogeneous communities", *Quarterly Journal of Economics* 115(3), 847-904.
- Allport, G. (1954), *The Nature of Prejudice*, Addison-Wesley Pub.Co., Cambridge.
- Arts, W. and Gelissen, J. (2001), "Welfare states, solidarity and justice principles: does the type really matter?", *Acta Sociologica* 44, 283-299.
- Ayala-Cañón, L., Jurado-Málaga, A. and Pedraja-Chaparro, F. (2005), *Desigualdad y Bienestar en la Distribución Intraterritorial de la Renta, 1973-2000*, IEF Working paper 6/05, Instituto de Estudios Fiscales, Madrid.
- Becker, G. (1957), *The Economics of Discrimination*, University of Chicago Press, Chicago.
- Clark, J. (1998), "Fairness preferences and optimisation skill: are they substitutes? An experimental investigation", *Journal of Economic Behavior & Organization* 34, 541-547.
- Corneo, G. and Grüner, H.P (2000). "Social Limits to Redistribution", *American Economic Review* 90, 1491-1507.
- Corneo, G. and Grüner, H. P. (2002), "Individual preferences for political redistribution", *Journal of Public Economics* 83, 83-107.
- Cutler, D., Glaeser, E. and Vigdor, J. (1999), "The rise and decline of the American ghetto", *Journal of Political Economy* 107(3), 455-506.
- Esping-Andersen, G. (1994), "Welfare states and the economy", in Smelser, N.J. and Swedberg, R. (eds.), *The Handbook of Economic Sociology*, pp. 711-732, Princeton University Press/Russell Sage Foundation, Princeton and New York.
- Esping-Andersen, G. (1999), *Social Foundations of Post-Industrial Economies*, Oxford University Press, Oxford.
- Fong, C. (2001), "Social preferences, self-interest, and the demand for redistribution", *Journal of Public Economics* 82, 225-246
- Glaeser, E., Laibson, D., Scheinkman, J. and Soutter, C. (2000), "Measuring trust", *Quarterly Journal of Economics* 115, 811-846.

- IMF (2004), *Government Finance Statistics CD*, Washington: International Monetary Fund.
- INE (2005), *Cifras Oficiales de Población*, Madrid: Instituto Nacional de Estadística,
http://www.ine.es/inebase/menu2_dem.htm.
- MEH (2005), *Presupuestos de las Entidades Locales*, Madrid: Ministerio de Economía y Hacienda, <http://dgft.minhac.es/index.html?1>.
- Putterman, L., Roemer, J.E. and Silvestre, J. (1998), "Does egalitarianism have a future?",
Journal of Economic Literature XXXVI, 861-902.