WORKING PAPER 05/2012

TERRITORY, IDENTITY, AND FEDERALIST PREFERENCES: SURVEY AND EXPERIMENTAL EVIDENCE

(Projecte - guanyador d'ajut a la recerca de la Càtedra Pasqual Maragall, any 2011)

Laia Balcells (Duke University and Institut d'Anàlisi Econòmica, CSIC)
José Fernández-Albertos (Instituto de Políticas y Bienes Públicos, CSIC)
Alexander Kuo (Cornell University)

Data de publicació de la versió revisada: 10/12/2013
Data de publicació de la versió original: 04/09/2012

CÀTEDRA PASQUAL MARAGALL D'ECONOMIA I TERRITORI

COL·LECCIÓ DE DOCUMENTS DE TREBALL

Càtedra Pasqual Maragall
Economia i territori
UNIVERSITAT DE BARCELONA

Entitat col·laboradora:

Santander UNIVERSIDADES

Preferences for Inter-Regional Redistribution

Laia Balcells
Assistant Professor
Political Science Department, Duke University
140 Science Drive, Room 208, Box 90204
Durham, NC 27708
Tel. (919) 660-4367
Fax. (919) 660-4330
laia.balcells@duke.edu

José Fernández-Albertos
Tenured Researcher
Institute for Politics and Public goods, CSIC
Albasanz, 26-28
Madrid 28037, Spain
j.f.albertos@csic.es

Alexander Kuo
Assistant Professor
Political Science Department, Cornell University
315 White Hall
Ithaca, NY 14850
Tel. (317) 370-4266
Fax. (607) 255-4530
agk72@cornell.edu

Introduction

What explains citizen preferences for redistribution across regions within a country? Around the world, countries vary greatly in how much central governments tax wealthier regions to redistribute to poorer ones in order to reduce inequality across regions. In many federations or multi-tiered polities, these issues are salient, electorally contested, and at times polarizing; they have sometimes led to demands for or attempts at secession from disaffected regions. Such issues have been politicized in wealthy countries including Belgium, Canada, Italy, Spain, the United Kingdom, as well as in poorer or middle-income states including Argentina, Brazil, China, India, Mexico, and Russia. Yet the recent growth in research on the causes and consequences of different federal arrangements and fiscal federalism have not studied in depth the roots of individual preferences over basic issues related to federal institutions and fiscal federalism. This omission is surprising given the high salience of this package of issues in such countries.

In this paper we address this omission by specifying and testing propositions about individual preferences over a key aspect of fiscal federalism: inter-regional redistribution. Consistent with a variety of extant theoretical models, we hypothesize that regional and individual income should explain variation in preferences for inter-regional redistribution. We build on this literature by hypothesizing that individual-level *information* about regional income positions should also affect preferences. We also argue that the role of this information on such preferences may be conditionally relevant given the salience of non-economic factors (i.e. identity issues) and political ideology.

We focus on evidence regarding such preferences in Spain, because it is an important illustrative case where much redistribution across regions (Autonomous Communities or ACs)[1] exists, and where regional redistribution and concerns about regional autonomy have become more intensively politically contested and salient over the last decade. We test our hypotheses with a novel experiment embedded in a large nationally representative sample of Spain with an oversample in Catalonia. Catalonia is a region with a distinct national and linguistic identity, where cultural and fiscal autonomy demands are an integral part of the public debate.

We assess how knowledgeable citizens are about their own region's relative income position and whether *informing* citizens of their region's relative income position affects their preferences for regional redistribution. We also see how individuals' evaluating other regions' incomes alters these preferences. Our experimental research design allows us to leverage randomization of two commonly cited interventions that are theorized to affect policy preferences in other contexts: information that is domain relevant (in this case, the respondent's regional relative income), and priming of relevant "out-group" or "in-group" categories. The impact of information on the respondent's regional relative income can be thought of as exogenously manipulating a region's relative income, as some citizens learn that their region is either poorer or richer than previously thought. This allows us to isolate the causal impact of actual changes in relative regional income on preferences.

Overall, we find the following: 1) regional income alone is a minimal factor in accounting for regional redistribution preferences; 2) however, learning about one's regional position affects preferences for regional distribution in directions consistent with some theoretical models (specifically, low income respondents in wealthier regions become less

[1] We use the terms "regions" and "ACs" interchangeably.

favorable of inter-regional redistribution if they learn that their region is richer than they thought); 3) the effects of information are moderated by political ideology and out-group priming. We do not find similar informational effects in Catalonia, though we find evidence of some priming effects. These findings have implications for the growing comparative politics literature on fiscal federalism and the dynamics of decentralization (Rodden 2006, Bakke and Wibbels 2007, Beramendi 2012). The results provide firmer micro-foundations about the formation of public opinion on such issues and, more specifically, about how such preferences are affected by information, ideology, and out-group priming.

The paper proceeds as follows: section one describes the relevant literature and our hypotheses; section two describes the design; section three describes the results in the control group; section four describes the experimental results; section five concludes.

Section 1: Background & Hypotheses

Relevant literature

Research in fiscal federalism and decentralization has progressed in explaining cross-national variation of the amount of fiscal redistribution across regions, the differing amounts of decentralized authority across states, and the related outcomes of successful and/or violent regional autonomy movements. The fiscal federalism literature in particular focuses on the institutional determinants of why federations redistribute among regions more than others. A main conclusion of this literature is that economic theories alone cannot account for this cross-national variation, and that "initially unequal" federations redistribute less than initially equal

federations (Beramendi, 2012; Rodden, 2010; Rodden, 2006); countries often do not adopt the most efficient forms of decentralization as predicted by classic models (e.g. Oates, 1999).[2]

However, in much of this literature, the underlying theoretical models explaining the amount of redistribution across regions are partially based on assumptions about citizen preferences over these outcomes. Yet no study tests these assumptions, in contrast to the voluminous literature on preferences for inter-personal redistribution. For example, in models such as those by Bolton and Roland (1997), the amount of regional autonomy depends on preferences of voters of regions of different incomes; in models of secession such as those by Alesina et al. (2005), voters have preferences over taxes and over public goods provision. In more recent work, Beramendi (2012) assumes that voters' regional redistribution and fiscal decentralization preferences are conditioned by individual and regional-level income.

An overlapping literature on regional autonomy movements also has a dearth of individual-level data testing assumptions of models. These models more explicitly incorporate "identity" preferences or views of the out-group, but as with the fiscal federalism literature, there remains little empirical testing of such assumptions. Much of the empirical progress on this question follows from models about the economic optimality of autonomy or secession (Alesina et al. 2005; Bolton and Roland 1997; Bordignon, Manasse, and Tabellini 2001). Some studies posit a correlation between conservative ideology and hostility towards immigrants, other "out-groups," and even redistribution if it is perceived that redistribution goes principally to undeserving out-groups (Klor and Shayo 2010; Billiet, Eisinga, and Scheepers 1996; Ceobanu and Escandell 2010; Duckitt, Wagner, Plessis, and Birum 2002; Hodson and Costello 2007;

[2] Correlates of higher inter-regional redistribution include proportional electoral systems, larger electoral districts, less powerful second chambers, cohesive national parties (Rodden 2010; Rodden and Wibbels 2010).

Pettigrew and Meertens 1995). However, this literature on negative affinity for out-groups does not consider such attitudes in a regional redistribution context.

Much of the empirical testing in these literatures instead has been in the domain of either cross-national or regional-level data on fiscal transfers and regional autonomy demands, or on qualitative testing of these theories. Extant public opinion work in fiscal federalism mostly examines attitudes about "federalism" generally (e.g. Petersen, et al. 2008). Related studies on individual preferences on autonomy movements document strong correlations between regional identity and support for regional autonomy, but focus less on regional redistribution.

A final limitation of the existing scant public opinion research on regional redistribution is that it ignores the importance of information in preference formation. Simple information has been found to change preferences in other specific policy contexts (see Duflo and Saez (2003) and Chetty and Saez (2009) as examples in US micro policy contexts). The fact that citizens may not be informed about the relative income of the region they live in enables us to test whether information affects views on regional redistribution. Many of the theoretical assumptions underpinning basic models of regional redistribution assume citizens have full information about their region's position in the overall income distribution, which remains an untested assumption.

We address these limitations and the relative absence of individual-level data in these literatures by focusing on preferences for regional redistribution and information about regional income. Are individuals in richer regions opposed redistribution to poorer regions, as is commonly assumed? What is the relationship between individual and regional income for such preferences?

Relevance of the Spanish context

Spain is an especially instructive case because the issues of inter-regional redistribution and the current push for fiscal autonomy from Catalonia are politically salient issues. Political polarization in Spain exists more over territorial issues than traditional inter-personal redistribution issues (Colomer 1998, Fernández-Albertos and Manzano 2012). Public opinion in Catalonia over the last 15 years has drifted towards less support for regional transfers and more support for fiscal autonomy for this region (Amat 2012; de la Fuente 2011). The current political discourse in Catalonia is that the net transfers from Catalonia to other Spanish regions are an important cause of the ongoing debt crisis of the Catalan regional government, and that increased fiscal autonomy would alleviate economic problems of this region. In July 2012, the Catalan regional government approved a bill in favor of reaching of a "Fiscal Pact" with Spain, which would have allowed Catalonia to have an independent tax revenue agency; this pact was rejected by the Spanish central government.

Additionally, in Spain much academic and political controversy exists over the amount of income that is taxed in some ACs and transferred to others (Beramendi 2012; de la Fuente 2011; León 2007, 2009). Some argue that the system over-equalizes regional incomes, leaving relatively richer regions in worse off position as compared to relatively poorer regions, post-transfers (Paluzie 2010, 364-367), and that such regional transfers generate perverse incentives for subsidized regions (Montasell and Sánchez 2012).[3] Others counter that regional transfers within Spain have stabilizing effects that benefit the national economy, and that richer regions should be obligated to transfer more to poorer ones (de la Fuente 2011).

[3] Beramendi (2012) in Chapter 7 provides an efficient summary of the development of the system of inter-region fiscal transfers and decentralized institutional change in Spain.

Hypotheses

We focus on two sets of hypotheses of individual preferences for regional redistribution, building on the literatures described above. The first set focuses on the roles of regional and individual income. In the discussion of our design, we elaborate on how the provision of information tests the impact of information on such preferences, but also how the manipulation of information also has the effect of exogenously *changing* an individual's relative regional income, allowing us to better isolate the impact of regional income on preferences. We also examine how other individual characteristics theorized to be correlated with support for individual redistribution, such as ideology, moderate the impact of this information. The second set of hypotheses focuses on regions as potential out-groups and the role of second-dimensional politics.

Regarding the first set of hypotheses, we build on basic models of inter-regional redistribution, which draw on models of individual level preferences for taxes and transfers. A naive expectation is that individuals in richer regions should be more opposed to regional redistribution:

H1: Citizens in richer (poor) regions should be less (more) supportive of redistribution from richer to poorer regions

However, recent models of fiscal federalism emphasize the role of individual as well as regional income, in particular the recent innovative examination of the political underpinnings of fiscal centralization and regional redistribution by Beramendi (2012). His theoretical framework is one of the few to explicitly incorporate individual-level preferences over these outcomes, by

distinguishing poor versus rich individuals in poor and rich regions.[4] We build on the basic framework which derives individual preferences for the amount of fiscal decentralization, and implicitly, the amount of inter-regional redistribution, from regional income, individual income, and the amount of inequality in a region. If we consider the four quadrants of rich versus poor individuals in rich versus poor regions, another straightforward expectation regarding inter-regional redistribution is that the two "extremes" of these quadrants should have more opposing views. This leads to the hypotheses:

H2a: Richer citizens in richer regions should be less supportive of redistribution from richer to poorer regions

H2b: Poorer citizens in poorer regions should be more supportive of redistribution from richer to poorer regions

What about potentially cross-pressured individuals, the poor citizens in rich regions and rich citizens in poor regions? We hypothesize that poor individuals in rich regions should also be more opposed to regional redistribution. First, as they are potential beneficiaries of redistribution, they should be expected to be against redistributive schemes that target a group of beneficiaries that explicitly excludes them. Second, if regional redistribution is understood as a transfer to poor regions financed through a flat tax on residents on rich ones, poor individuals in rich regions should be most hostile to such transfers. Finally, as Beramendi argues, in richer regions that are more equal relative to the union, poor individuals in rich regions should be more opposed to centralization structures (and thus regional redistribution) because they will be more

[4] For Beramendi, the main political variables explaining cross-national variation in the degree of decentralization are aspects of national-level political institutions and inter-regional differences. We focus on individual preferences and set aside country-level factors such as average labor mobility or the nature of the representation system.

harmed from centralized redistribution, as the net beneficiaries would be those living in poorer regions.

Similarly, we expect that rich individuals in poor regions might be more supportive of regional redistribution, as the net transfers can take the form of public goods that uniformly benefit the population of the poor region. Further, as predicted by Beramendi, such citizens in more unequal regions are more likely to support centralization and regional redistribution, as this reduces the political demand for intra-regional redistribution.[5] Hence:

H2c: Poorer citizens in richer regions should be less supportive of redistribution from richer to poorer regions

H2d: Richer citizens in poorer regions should be more supportive of redistribution from richer to poorer regions

We now turn to hypotheses that go beyond basic individual and regional income factors. One of the main assumptions of all previous models of such preferences is that citizens are informed of their region's relative income. We detail in the design section how the fact that respondents are not fully informed about regional relative income permits us to test the impact of

[5] See Chapter 2 in Beramendi (2012) for a full discussion of how regional inequality affects preferences. Our general predictions of regional redistribution in hypothesis 2 are not dependent on assumptions about regional inequality. But the Spanish case offers some advantages in this respect because the regional wealth and inequality patterns are consistent in a way that allows us to test hypotheses consistent with Beramendi's framework. There is a strong correlation between intra-regional inequality and regional per capita income; all of the Spanish regions with a per capita income above the median (except for Castile and Leon, the eighth wealthiest region) have lower levels of inequality than the mean across regions, and all regions below the median but (except for one, Murcia) have higher levels of inequality than the regional mean. Data are compiled by using Household Survey Data from the Spanish Statistical National Institute (INE). See also Aldás et al. (2007) and Beramendi (2012): 188.

information about regional income on preferences. Our design, by manipulating information, simulates the effect of changing a citizens' relative regional income, because they learn the true position of their region's position. This allows us to test the causal impact of a change in relative regional income. Broadly, we expect the following:

H3: Citizens who learn that their region is poorer (richer) will be more (less) supportive of regional redistribution compared to those who do not learn

For reasons of brevity, we do not elaborate on H3 for all expected combinations regarding individual and regional income described in H2, but discuss these extensions in the results section.

We also hypothesize that, consistent with the vast literature on inter-personal redistribution, political ideology should affect views of regional redistribution. This could be due to higher sensitivity of left-wing individuals to issues and information regarding redistribution (Jacoby 1991, Goren 2004).

H4a: Left-wing individuals are more supportive of regional redistribution; left-wing individuals will be more supportive of redistribution if they learn their region is poorer

H4b: Right-wing individuals are less supportive of regional redistribution; right-wing individuals will be less supportive of redistribution if they learn their region is richer

A second set of hypotheses is derived from the literature on identity or out-group concerns and support for redistribution, summarized in the previous section. These models generally predict that cultural identity salience of the out-group should dampen support for redistribution towards that group.

H5: Citizens who are primed to consider their in-group (the out-group) will be more (less) supportive of regional redistribution

Note that H5 is not dependent on any particular assumption of whether the citizen views the out-group region to be a richer or poorer region. But, we hypothesize that priming of out-group regions that are wealthier (i.e. Catalonia and the Basque Country in the case of Spain) is likely to increase support for regional redistribution for citizens outside those regions because people are more willing to receive redistribution from these out-groups; the relative position of the out-group region in the regional income distribution is generally common knowledge. The directional predictions in this hypothesis might be distinct in a region that is richer and an "out-group." For example, within Catalonia (ranked fourth in income per capita in Spain), increasing salience of the out-group for those in Catalonia (the rest of Spain) and the in-group (Catalonia) should reduce support for regional redistribution.

Section 2: Design

To test the above hypotheses, we gathered data using a web-based survey of 4,000 respondents in Spain in July 2012. The survey was administered by *Netquest*, a Spanish survey firm. The resulting sample has a similar demographic composition to large nationally representative surveys in Spain (i.e. those fielded by the *Centro de Investigaciones Sociológicas*) and it included an oversample of Catalonia (n = 1,200).[6]

The dependent variable is whether the citizen prefers more or less inter-regional redistribution. Respondents outside of Catalonia (n = 2,800) were randomly assigned to a control

[6] Appendix A gives an overview of Netquest's stratification and sampling strategy. The supplemental online appendix (SOA) compares our survey to others on the relevant social and demographic variables. It shows no statistically significant differences in the distributions of these variables between the surveys. Our sample has a slight oversample of younger respondents; all analyses that are re-estimated with weights for age do not change the results.

group and a treatment group with equal probabilities. In the control group respondents were first asked this policy preference. They were asked afterwards to place the relative income position of their own AC and two other randomly selected ACs, receiving no information. Spain has 17 ACs and two independent cities; respondents simply had to choose an integer number 1 through 19 for each AC (with 1 referring to the on average richest AC, and 19 indicating the poorest).[7] In the treatment group, respondents were asked about the relative placement of their own AC and two others, but they *were then told the correct relative position of their own AC*. Individuals then answered the same dependent variable questions as the control group.

This design enables us to determine whether accurate information about the respondent's AC's relative regional income affects preferences for regional redistribution. It also allows us to measure the impact of respondents actually exogenously becoming relatively poorer or richer because they are learning that their region is poorer or richer than previously thought. In addition, the fact that people were asked about the relative placement of two randomly assigned regions (in addition to their own) allows us to determine whether being asked to consider specific regions affects these preferences.

We employed a similar design for residents in Catalonia but with two additional treatments. For Catalonia respondents were randomly assigned to one of four experimental groups, with a .2 probability assignment for the first two and .3 probability assignment for the latter two. In the control group, respondents answered the same questions as the control group

[7] The information question in Spanish is, "Como usted sabe, en España hay 17 comunidades autónomas más las 2 ciudades autónomas de Ceuta y Melilla. Si ordenáramos estas 19 autonomías según su renta media, colocando a la más rica en la posición 1 y a la más pobre en la posición 19, ¿en qué posición diría usted que está [región X]?" Appendix B gives the objective ranking of each AC from the INE.

for the rest of Spain. In the second experimental group, the "cultural treatment" group, respondents answered three questions that were designed to make the Catalan culture and language issue salient[8], followed by the same question about regional redistribution. (After answering the dependent variable question, respondents in these first two groups were also asked to rank Catalonia and two other randomly chosen ACs). In the third experimental group, the "information treatment group," respondents (as the respondents in the rest of Spain) were asked about the relative placement of Catalonia as well as two other randomly chosen ACs, and were told the correct placement of Catalonia. In the fourth and final group, the "both treatments" category, respondents were asked about the relative placement of Catalonia as well as two other randomly chosen ACs, and were then told the correct placement of Catalonia; they then answered the same three questions as in Group 2 designed to make the cultural dimension of Catalan relations salient and they then answered the same dependent variable questions. Table 1 displays the experimental design.[9]

[8] The three questions asked about strength of Catalan identification, views on Catalan language instruction in schools, and views on Catalan language autonomy.

[9] The randomization checks in the SOA demonstrate the successful randomization of the treatments; no significant covariates in the Spanish only sample predict treatment assignment. In the Catalan sample, those who identify strongly as Catalan are slightly less likely to be assigned to the control group; in the discussion of the results for the section, all models control for degree of Catalan identification as well as if the respondent speaks Catalan as a native language (which is uncorrelated with treatment assignment).

Table 1: Experimental Design

Experimental Group	Geographic location	Information Treatment	Catalan Cultural Prime Treatment	Probability of Receiving Treatment within Geographical Area
Control Group	Spain excluding Catalonia	No	No	.5
Group 2	Spain excluding Catalonia	Yes	No	.5
Group 3	Catalonia	No	No	.2
Group 4	Catalonia	No	Yes	.2
Group 5	Catalonia	Yes	No	.3
Group 6	Catalonia	Yes	Yes	.3

Regarding the dependent variable, the regional redistribution question asked respondents how much they agreed or disagreed with the statement that the Spanish fiscal system should transfer resources from high-income regions to low-income regions. Response options for the redistribution preference question are very much agree, somewhat agree, neither agree nor disagree, somewhat disagree, and very much disagree, with "1" being "very much agree / somewhat agree" and "0" otherwise.

Unless otherwise noted, all independent variables are coded as binary. Income is a ten-point scale corresponding to household deciles. Education is coded on a three-point scale, with the categories referring to the highest level of education completed: primary or basic secondary, upper secondary, or university. Age is coded on a four-point scale (the increasing scale intervals are 18-29, 30-39, 40-49, 60-64). Political ideology is the standard 10 point scale, with 1 being most left and 10 being most right-wing. Female is coded 1 and unemployed is coded as 1.

Section 3: Results from the Control Group

Descriptive statistics – preferences

We first discuss descriptive statistics from the control groups to assess baseline preferences. For presentational clarity we discuss descriptive statistics and analyses for Spain without Catalonia, and then for Catalonia specifically. Appendix C presents the descriptive statistics on the demographic variables of interest.

A majority of respondents (52 per cent) in the populated-weighted sample are favorable to redistribution from rich to poor regions. The two clear outliers are the two culturally distinct regions of the Basque Country and Catalonia, where support plummets to 24 percent and 23 percent, respectively. Support for regional redistribution is roughly the same across rich and poor individuals living in poor regions (about 60 percent), but individual income seems to matter in rich regions: 54 percent of rich individuals in rich regions support regional redistribution, but only 48 percent of poor ones.[10]

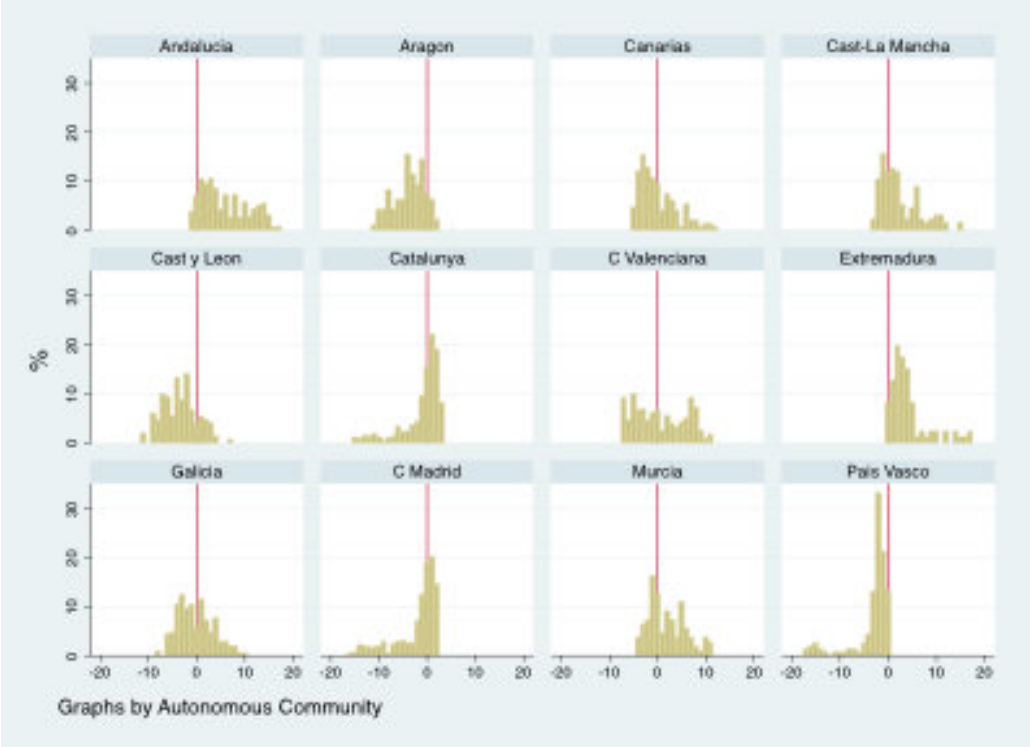
What do people know about where their region is in the distribution of income? Figure 1 presents histograms of the difference in the actual position of a region and the belief of respondents (regions with less than 80 respondents are not included in the graph). They are centered at zero, represented by the red vertical line, which corresponds to those respondents that have assigned the correct ranking to their own region. Those to the right of the red line indicate beliefs that the region has a relative ranking higher than the actual one; those to the left of the red line believe that the region has a relative ranking lower than the actual one. Partially due to the truncated nature of the data, people in rich regions tend to deviate to the left of the right value,

[10] Rich and poor individuals are defined by being in the bottom or top five deciles; rich and poor regions are defined by being above or below the median region income.

and people in poor regions to the right. For example, for poorer regions, 62 percent of individuals believe their region is richer than it actually is; among richer regions, only 23 percent of individuals believe their region is richer than it actually is. These patterns indicate that we should be cautious in interpreting the treatment of giving information on actual regional ranking as an average effect, as different individuals will of course learn whether their region is richer or poorer.[11] The dispersion around the red lines indicates how much inaccuracy citizens in the region have about the position of their CA; the greatest variation in perceptions is observed in middle-income regions. Overall, the results demonstrate some accuracy among some respondents, but also much imperfection and lack of knowledge of relative placement.

[11] On average, individuals in rich regions are more likely to learn that their region is *richer* than they thought, while individuals in poor regions are more likely to learn that their region is *poorer* than they thought. To partially accommodate this issue and to test hypotheses more directly building on previous frameworks (particularly hypotheses 2), we examine the impact of information on the four quadrants of individuals: poor people in poor region, poor people in rich regions, rich individuals in rich regions, and rich individuals in poor regions. This analysis better demonstrates how the effect of information can vary for individuals with differing individual and regional incomes. Throughout the discussion of the results, we note that the information effects have varying effect sizes for individuals of different incomes, some of whom are more likely to learn they are richer or poorer. We can interpret our treatment effects for those who believe their region is poorer or richer than it actually is what the impact of such knowledge is, but of course, such individuals who have such beliefs may differ from the average population. As Figure 1 shows, most individuals are mistaken about their region's true position.

Figure 1. Difference in the perceived relative location of the AC and the actual position



Estimations from the control group: Explaining preferences for inter-regional transfers

We first estimate a series of logistic estimation equations where the dependent variable is whether the respondent supports transfers from rich to poor regions. Overall, we do not find much confirmation of Hypothesis 1. But we find partial confirmation of the intuition that poor and rich individuals will differ depending on if they live in a poor or rich region. Table 2 displays these estimations for Spain without Catalonia and for Catalonia separately. For column 1, the relevant independent variables of interest are regional income position as well as the respondent's *perceived relative position* of the region. Without considering other demographic variables, the coefficient on relative region rank only has a minimal effect on support for redistribution (recall that the scale is 1-19, with *higher* values indicating relatively *poorer* regions; this eases interpretation as positive coefficients indicate greater support for regional

redistribution). A one-rank increase in regional income leads to one percentage point increase in support for regional redistribution. But as column 1 shows, controlling for demographic variables including individual income, gender, labor market status, and residence in a region where linguistic/territorial issues are salient (Basque Country, Navarre, Catalonia) dampens the effect of the AC relative income variable. As expected, respondents in those three areas are less likely to support inter-regional redistribution (note that these are the three of the four richest regions in Spain). Further, in almost all regions, the citizen's own self-placement of the region's income is uncorrelated with support for regional redistribution.[12] This is some disconfirmation of hypothesis 1.

Table 2 demonstrates that if we ignore the potential cross-pressuring effects hypothesized above, individual income seems to be uncorrelated with support for such inter-regional redistribution.[13] But as column 2 of Table 2 shows, the indicator of whether a person is poor or rich and in a self-perceived rich or poor region matters. If we introduce simple binary indicators indicating which of the four regional/individual income quadrants an individual is in, where the baseline group is that of poor individuals in poor regions, poor individuals in rich regions are more hostile towards regional redistribution. The estimated marginal effect of being a poor person in a rich region relative to being a poor person in a poor region is eight percentage points. These findings provide partial confirmation of hypothesis 2c. However, the data from the control group do not confirm the hypotheses that in poor regions, poor and rich individuals differ regarding their preferences.

[12] These results hold if we use actual regional GDP per capita instead of regional rank; we use regional rank as it eases interpretation of the coefficients.

[13] The interaction term between income and regional income is also statistically insignificant.

Within the control group in Catalonia, individual income is uncorrelated with support for regional redistribution. As Column 3 of Table 2 displays, binary identification with being Catalan as opposed to Spanish is unsurprisingly negatively correlated with support for regional redistribution. Individuals who identify as exclusively Catalan, or more Catalan than Spanish, are 16 percentage points less likely to support redistribution across regions. Overall, the results are consistent with those of Amat (2012), who also finds that in regions where second-dimensional politics are active there is less support for regional redistribution.

Table 2: Estimation Results in Control Group for Spain and Catalonia

Sample:	Spain exc. Catalonia		Catalonia
DV	M1: Inter-reg. transfers	M2: Inter-reg. transfers	M3: Inter-reg. transfers
Actual region rank	0.0100		
	(0.012)		
Own region rank	0.014	0.0139	
	(0.012)	(0.0117)	
Income Decile	0.020		0.027
	(0.023)		(0.067)
Female	-0.29**	-0.286**	0.16
	(0.11)	(0.114)	(0.37)
Age category	0.015***	0.0152**	0.029**
	(0.0051)	(0.00514)	(0.015)
Unemployed	0.015	0.0168	0.41
	(0.14)	(0.142)	(0.49)
Education	-0.021	-0.0213	-0.065
	(0.088)	(0.0872)	(0.27)
Ideology	-0.044*	-0.0444*	-0.099
	(0.025)	(0.0253)	(0.084)
Resides in Basque Country	-1.22***	-1.239**	
	(0.25)	(0.253)	
Strong Catalan Identif.			-0.65***
			(0.15)
Rich ind. in rich region		0.0203	
		(0.170)	
Rich ind. in poor region		-0.0482	
		(0.157)	
Poor ind. in rich region		-0.308*	
		(0.166)	
Constant	-0.16	0.0912	-0.29
	(0.37)	(0.380)	(1.23)
N	1405	1405	221
pseudo R^2	0.037	0.038	0.112

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Section 4: Treatment effects

We first present the treatment results testing the hypotheses for Spain excluding Catalonia. We then turn to the experimental results in Catalonia specifically.

The impact of information on preferences in Spain (excluding Catalonia)

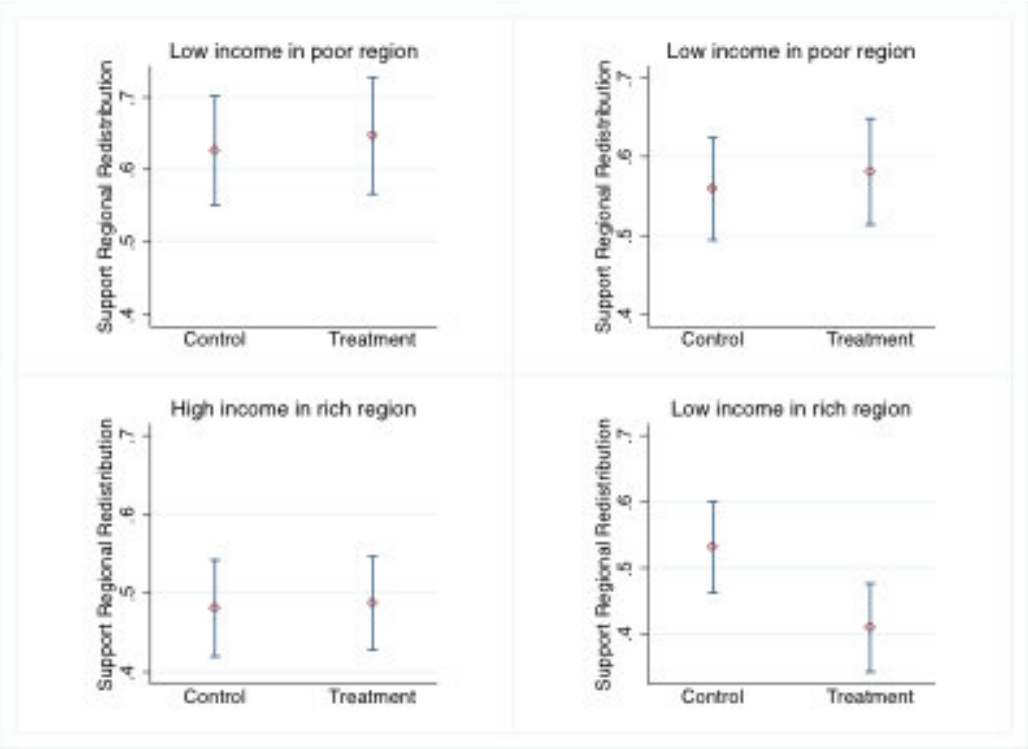
We find evidence that informing individuals of the true relative income position of their region affects preferences for inter-regional redistribution, partially confirming H3. We posit that this information isolates the impact of actual changes in relative regional income on preferences, as respondents are learning if their region is in fact relatively richer or poorer. The treatment is thus a manipulation in *change* in relative regional income. To assess its impact, we compare individuals across the experimental groups who are all *incorrect* in a specific direction (they either believe their region is poorer or richer than it actually is); we compare the impact of the respondent learning about the region's true relative position to those who were wrong in the same direction, but are not revealed their region's true position. Simple difference of means tests between the experimental and control groups demonstrate the impact of this information and thus actual change in relative regional income.

First, individuals who learn that their region is *poorer* than they thought are more supportive of redistribution from wealthier regions to poorer ones (.60 vs. .64, $p<.09$). This is consistent with hypothesis 3. But on average, we do not find evidence that learning that one's region is relatively richer reduces support for regional redistribution.

Next, we find that among those living in rich regions, learning that the region is richer than previously thought *reduces* support for regional-redistribution. These results are displayed in Figure 2. In richer regions, respondents who learn that the region is *richer* than they previously thought are less supportive of regional redistribution (.60 vs. .51, $p<.03$). This result

is most pronounced in the quadrant of *poorer respondents in richer regions* (.53 vs. .41, $p<.04$).[14] For these individuals, learning that the region is richer than previously thought strongly *reduces* support for inter-regional redistribution. This evidence is consistent with the control group evidence that poorer citizens in richer regions are most hostile towards redistribution across regions.

Figure 2. Treatment effects for those who learn that their region is richer by personal and regional income



Note: Vertical bars indicate 95% confidence intervals

This experimental evidence is consistent with some of the intuitions of why poor people in rich regions would be more hostile towards regional redistribution; as Beramendi argues, such individuals "are better off pursuing a decentralized system of interpersonal redistribution in

[14] If we restrict the sample to respondents outside of the Basque Country and Navarre, this difference increases (.61 vs .44, p<.01).

which they are the beneficiaries of fiscal transfers occurring only within their region rather than engaging in class solidarity with the rest of the union" (Beramendi 2012, 11). But, we do not find similar information effects for citizens in poor regions; changing their relative regional income via information does not have a significant effect. Nor do we find for these individuals that learning that the region is poorer than expected makes respondents more likely to support redistribution. We discuss these asymmetrical effects for learning that one is poorer versus richer below.

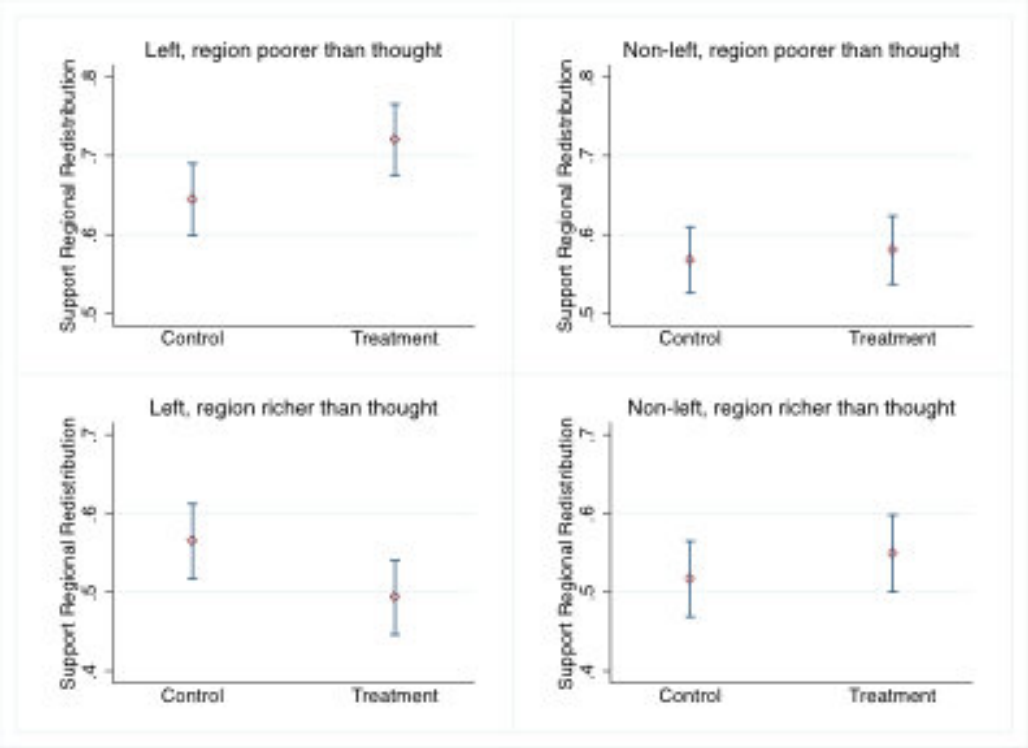
We also find that political ideology is an important moderator of the impact of information on preferences regarding regional redistribution. Left-wing individuals who learn their region is poorer become more supportive of regional redistribution, compared to left-wing individuals who do not learn this (.64 vs. .72, $p<.05$).[15] Figure 3 displays this effect. No such effect exists for right-wing individuals. Perhaps surprisingly, left-wing individuals who learn they are richer also become *less* supportive of regional redistribution. This result of left-wing individuals' preferences on regional redistribution being more sensitive to relevant information could be due to several reasons. First, equality concerns are typically more central for left-leaning people and thus such individuals might be more responsive to information or shifts in relative income. The fact that left-wing individuals are capable of being more hostile towards regional redistribution indicates that altruism may be a less important component of left-wing ideology, at least in the context of regional redistribution.[16] Second, as we discussed the

[15] Ideology is coded as left-wing being 1-4 on the ideology scale and 5-10 for non-left-wing; the results do not change if we recode left-wing to be 1-5.

[16] The political psychology literature on how core ideological beliefs affect preferences over policy issues is vast. See Jacoby (1991), Goren (2004), Jost et al. (2009). Note that arguments about the impact of information or changes in relative income on left-wing citizens' preferences

literature on second dimensional and identity salience (and as we show below), preferences towards regional redistribution are also likely informed by cultural and national considerations; information regarding only regional income may not matter for more right-wing individuals if their concern about regional politics is driven by identity or out-group considerations.[17]

Figure 3. Treatment effects by ideology



Note: Vertical bars indicate 95% confidence intervals

---

are distinct from predictions that such information will always make such citizens more pro-redistribution.

[17] Right-wing ideology and nationalist attitudes are correlated in the Spanish context; an October 2012 CIS survey found that 64 percent of right-wing individuals versus 37 percent of left-wing individuals declared themselves to be "very proud" of being Spanish (CIS Survey 2958). We also test theories of partisan bias by examining whether treatment effects vary by partisan preference, by estimating models conditioning on the partisan affiliation and interacting partisan affiliation with the information treatment; we find no statistically significant effects of party affiliation. See the SOA.

These treatment effects on preferences for regional redistribution remain when we estimate standard logistic models with relevant demographic covariates as controls. The results are displayed in Tables 3 and 4; Table 3 examines the treatment effect for respondents who learn that their region is poorer than they thought (relative to similarly incorrect individuals who do not learn in the control group). Table 4 does the same comparison for individuals who learn their region is richer than they thought (relative to similarly incorrect individuals in the control group). We can interpret the coefficient on the treatment as the causal effect of learning that the region is poorer (Table 3) or richer (Table 4). Each of the columns for both tables displays estimations conditioning on the main groups of interest as theorized by the literature: poor versus rich individuals living in poor versus rich regions, as well as left-wing versus right-wing ideology. The estimated marginal effect of information for all respondents learning their region is poorer than they thought is about five percentage points. This effect is greater than moving one category up in the age variable. While the effect of the information treatment is modest and slightly imprecisely estimated ($p<.12$), it is notable that the information itself matters much more than individual or regional income.

Column 2 of Table 3 compares poor citizens in rich regions who learn that their region is richer with citizens who are similarly incorrect but do not learn; this effect is about negative 13 percentage points. Note that the coefficients for the treatment for other categories of individuals are in the expected directions, but imprecisely estimated. The treatment has no effect on rich individuals generally. Column 6 of Tables 3 and 4 confirm the previously stated difference of means effects for left-wing ideology: left-wing individuals who learn their region is poorer

become more supportive of regional redistribution, while left-wing individuals who learn their region is richer become more hostile towards regional redistribution.[18]

[18] We find no evidence that the size of difference between the respondent's self-placement and actual AC rank on preferences. The interaction term between the absolute difference and treatment variable is statistically insignificant. The information results are driven more by respondents learning whether they are richer or poorer as opposed to the *amount* by which they learn they are richer or poorer.

Table 3. Treatment effects for those who learn region is poorer than they thought

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Low income, rich region	Low income, poor region	High income, rich region	High income, poor region	Left	Non-left
Actual region rank	0.0235**	0.0700	0.0868**	-0.0511	0.0631*	0.0503**	0.00520
	(0.0114)	(0.103)	(0.0318)	(0.0819)	(0.0340)	(0.0178)	(0.0151)
Income Decile	0.0257	-0.111	0.0561	-0.0649	-0.104	0.0697*	-0.0105
	(0.0240)	(0.172)	(0.0657)	(0.132)	(0.0765)	(0.0390)	(0.0309)
Female	-0.253**	0.682	-0.0383	-0.391	-0.574**	-0.246	-0.277*
	(0.119)	(0.513)	(0.179)	(0.335)	(0.210)	(0.188)	(0.157)
Age category	0.130**	0.0716	0.106	-0.0931	0.252**	0.168*	0.0976
	(0.0571)	(0.239)	(0.0838)	(0.176)	(0.101)	(0.0919)	(0.0741)
Unemployed	-0.0196	-0.195	-0.00979	0.467	-0.0588	0.211	-0.179
	(0.152)	(0.537)	(0.191)	(0.734)	(0.347)	(0.245)	(0.197)
Education	0.0543	-0.0957	-0.268**	0.780**	0.324*	0.114	-0.00362
	(0.0913)	(0.393)	(0.127)	(0.330)	(0.168)	(0.151)	(0.116)
Ideology	-0.0860**	0.0145	-0.0595	-0.0902	-0.130**	0.102	-0.0240
	(0.0263)	(0.109)	(0.0396)	(0.0735)	(0.0470)	(0.0887)	(0.0514)
Treatment	0.183	0.492	0.159	0.288	0.115	0.377**	0.0445
	(0.116)	(0.490)	(0.175)	(0.332)	(0.202)	(0.187)	(0.152)
Constant	0.0275	-0.297	-0.558	-0.127	-0.220	-1.324**	0.341
	(0.354)	(1.498)	(0.657)	(1.290)	(0.922)	(0.574)	(0.527)
pseudo R^2	0.018	0.043	0.024	0.050	0.053	0.036	0.008
N	1293	74	577	172	470	568	725

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

Table 4. Treatment effects for those who learn their region is richer than they thought

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Low income, rich region	Low income, poor region	High income, rich region	High income, poor region	Left	Non-left
Actual Region rank	0.0228	0.161**	-0.0182	0.0464	-0.0184	-0.00624	0.0484**
	(0.0157)	(0.0633)	(0.0565)	(0.0554)	(0.0785)	(0.0230)	(0.0221)
Income Decile	0.0316	-0.0270	0.101	-0.0267	0.0206	0.00676	0.0671*
	(0.0246)	(0.0984)	(0.0884)	(0.0848)	(0.107)	(0.0353)	(0.0354)
Gender	-0.397**	-0.481*	-0.102	-0.511**	-0.453	-0.342*	-0.475**
	(0.127)	(0.271)	(0.245)	(0.231)	(0.319)	(0.184)	(0.181)
Age	0.112*	0.0758	0.0270	0.141	0.294*	0.0679	0.157*
	(0.0624)	(0.131)	(0.118)	(0.116)	(0.159)	(0.0895)	(0.0914)
Unempl.	0.123	0.482	0.110	0.456	-0.774*	0.309	-0.0384
	(0.152)	(0.294)	(0.247)	(0.358)	(0.433)	(0.218)	(0.219)
Education	0.0307	0.249	-0.130	0.102	-0.203	0.0486	-0.0266
	(0.0985)	(0.192)	(0.174)	(0.208)	(0.274)	(0.144)	(0.140)
Ideology	-0.00105	-0.128**	-0.00183	0.0701	0.121	0.0615	-0.0265
	(0.0278)	(0.0575)	(0.0539)	(0.0511)	(0.0774)	(0.0840)	(0.0598)
Basque Country resident	-1.169**	-0.530		-1.165**		-1.725**	-0.648**
	(0.221)	(0.418)		(0.343)		(0.328)	(0.311)
Treatment	-0.0958	-0.542**	0.117	-0.0498	0.149	-0.333*	0.144
	(0.121)	(0.255)	(0.235)	(0.222)	(0.305)	(0.174)	(0.174)
Constant	-0.151	-0.351	0.401	-0.330	0.177	0.236	-0.460
	(0.381)	(0.824)	(0.979)	(0.953)	(1.585)	(0.579)	(0.612)
pseudo R^2	0.049	0.092	0.006	0.078	0.061	0.068	0.050
N	1183	289	304	379	211	604	579

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

Experimental results: priming the "out-group" and information's effect on preferences

To test hypothesis 5, we now examine the impact of *priming the out-group* on preferences for regional redistribution, first focusing on Spain without Catalonia. To do this we leverage an aspect of the design that randomly asked some respondents to rank linguistically distinct regions on the relative income scale, whereas other respondents were not asked to rank such regions.[19]

We consider respondents only within the treatment group, as this is the only group in which respondents were asked to rank their own and other regions *before* being asked about preferences on redistribution. We focus on the potential priming effect of the Basque Country and Catalonia because they are the most salient regions regarding autonomy and fiscal interdependence issues.[20] The estimation results of these priming effects are displayed in Table 5.

We find that the priming of ethnically or linguistically distinct regions affects preferences for fiscal transfers across regions, confirming hypothesis 5. Further, individuals who learn they are poorer and are primed by evaluating one of the linguistically distinct regions are more supportive of regional redistribution than those who learn but are not primed. (Recall that these areas are generally thought to be among the richer regions). This difference is substantively large (.62 vs. .73, $p<.02$).

[19] 22 percent of the Spanish sample outside of Catalonia was asked to rank Catalonia or the Basque Country's relative income.

[20] We check for priming results of the redistribution questions in the control group and find none; that is, a respondent's answer to the question on redistribution does not correlate with ranking either the Basque Country nor Catalonia differently.

We find that this priming effect difference in preferences for regional redistribution is driven by individuals who are more right-wing. Right-wing individuals primed to consider ethnic-linguistically distinct regions and learn that they are poorer are much more likely to support regional redistribution (.55 v .70, $p<.01$) than right-wing individuals who learn they are poorer but not primed. In fact, right-wing individuals on average who are primed to rank one of the linguistic out-groups are more pro-regional redistribution (.54 v .63, $p<.04$), but this effect is driven by right-wing individuals who learn their region is poorer. Among left-wing individuals who learn their region is poorer, the prime has no effect on preferences.

Recall that left-wing individuals who learned their region was poorer also became more supportive of redistribution. This indicates an interesting difference in the effect of ideology and information on regional redistribution preferences. We observed that left-wing individuals who learn they are poorer become more pro regional redistribution. The effect also occurs among right-wing individuals, but *only* when they are primed to consider linguistically distinct out-groups as well. One speculation is that right-wing individuals might view regional redistribution issues through the "lens" of views of out-groups, whereas left-wing individuals are more likely to apply a standard economic distributional logic.[21]

[21] We conduct a series of alternate specifications to test for other potential priming effects and do not find significant differences nor statistically significant coefficients on the relevant binary priming variables in estimations controlling for demographic covariates. First, we test "neighborhood priming" hypotheses that conjecture that being primed to evaluate one's neighboring region(s) would affect preferences differently from those not primed. We test whether being primed by being asked to evaluate either: a) one bordering neighbor, b) two neighbors, c) two poorer neighbors, d) two richer neighbors has any effect on preferences, and find no effect. Second, we test whether being primed to evaluate two richer or poorer regions affects preferences, and find little consistent robust effects on preferences. We do find that

Table 5. Priming effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Learn Region is richer than thought	Learn Region is poorer than thought	Learn Region is poorer than thought, Left	Learn Region is richer than thought, Left	Learn Region is poorer than thought, non-Left	Learn Region is richer than thought, non-Left
Own regional rank	0.0303**	0.0546**	0.0166	0.0341	0.0167	0.0125	0.0985**
	(0.00772)	(0.0227)	(0.0169)	(0.0281)	(0.0320)	(0.0219)	(0.0335)
Income Decile	0.0254	0.0481	0.0159	0.126**	0.0161	-0.0591	0.0923*
	(0.0162)	(0.0350)	(0.0350)	(0.0594)	(0.0490)	(0.0449)	(0.0514)
Gender	-0.321**	-0.409**	-0.196	-0.288	-0.343	-0.167	-0.548**
	(0.0818)	(0.182)	(0.178)	(0.290)	(0.257)	(0.232)	(0.269)
Age	0.127**	0.0750	0.197**	0.262*	0.0392	0.178*	0.0918
	(0.0396)	(0.0889)	(0.0834)	(0.142)	(0.123)	(0.107)	(0.133)
Unemployed	0.0712	0.217	-0.0951	0.215	0.358	-0.285	0.0800
	(0.102)	(0.217)	(0.220)	(0.352)	(0.301)	(0.287)	(0.324)
Education	0.0611	0.162	0.0972	0.0803	0.140	0.0705	0.186
	(0.0637)	(0.144)	(0.133)	(0.221)	(0.211)	(0.170)	(0.209)
Ideology	-0.0450**	0.0412	-0.130**	0.165	-0.0207	-0.0941	-0.0282
	(0.0179)	(0.0406)	(0.0379)	(0.137)	(0.118)	(0.0731)	(0.0950)
Cat or BC asked	-0.0344	0.0314	0.510**	0.213	-0.114	0.695**	0.204
	(0.0965)	(0.212)	(0.217)	(0.355)	(0.296)	(0.279)	(0.311)
Basque Country resident	-1.146**	-0.810**			-1.127**		-0.477
	(0.183)	(0.317)			(0.445)		(0.462)
Constant	-0.165	-1.066*	0.190	-1.314	-0.339	0.436	-1.246
	(0.239)	(0.564)	(0.508)	(0.839)	(0.813)	(0.763)	(0.929)
N	2755	589	623	271	305	352	284
pseudo R^2	0.038	0.050	0.033	0.049	0.040	0.030	0.074

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

---

individuals who rank their region as poorer than the two other regions are more pro redistribution, but this effect is driven by being asked to evaluate one of the two ethnically/linguistically distinct regions, a result discussed above. See the SOA.

The impact of information on preferences in Catalonia: regional redistribution

We now turn to discussion of the results of the treatments in Catalonia, examining both *in-group vs. out-group priming* as well as *information* treatments. Overall, we find little evidence that information (learning about one's relative regional position) affected preferences for redistribution across regions. Comparing the treatment effect of respondents who learn they are richer or poorer versus those in the control group who are similarly incorrect yields no information effect. While there are average differences between these three treatment groups and the control groups regarding preferences over regional transfers, these differences are not robust to inclusion of standard demographic variables. We discuss in the conclusion why information seems not to affect such preferences in this region; one reason might be that the relative position of Catalonia is not important for individuals, but that other relevant information is. In-group priming (the second treatment group within Catalonia) also has no effect on redistribution preferences.

However, we find evidence that out-group priming affects preferences for regional redistribution. To test hypothesis 5 in Catalonia, we also assess whether priming via evaluation of randomly appearing regions affected preferences over regional redistribution. This was done in the same manner as with the sample outside of Catalonia. We do this by comparing individuals within Treatment 5 (the information-only treatment). Each of the 18 other regions within this experimental group is evaluated by approximately 10 percent of the sample. We find that the only region that affects preferences over redistribution is Extremadura, the poorest region in Spain and also the region more benefited from regional transfers (Paluzie 2010). The difference between those primed to evaluate Extremadura and those not is dramatic (.30 vs .13, $p<.06$), and is robust to standard demographic covariates. This result supports the hypothesis

that out-group priming—or priming of "beneficiaries" of redistribution—can dampen support of redistribution, consistent with previous results on inter-personal redistribution. Columns 4-5 of Table 6 display the estimations of priming results on regional redistribution in Catalonia.

Table 6: Treatment Results for Catalonia

	Catalonia	Catalonia	Catalonia	Catalonia, primed by Extremadura
DV:	Interreg. transfers	Interreg. transfers	Interreg. transfers	Interreg. transfers
Own region rank	0.030	0.018	0.0050	0.014
	(0.027)	(0.026)	(0.023)	(0.034)
Income Decile	0.0020	0.027	0.029	0.033
	(0.046)	(0.041)	(0.040)	(0.053)
Female	-0.14	-0.36*	-0.24	-0.71***
	(0.23)	(0.21)	(0.20)	(0.28)
Age category	0.15	0.24**	0.021	0.21*
	(0.11)	(0.097)	(0.092)	(0.13)
Unemployed	-0.10	0.27	0.14	0.25
	(0.34)	(0.28)	(0.29)	(0.36)
Education	-0.10	0.27*	0.0094	0.45**
	(0.18)	(0.16)	(0.15)	(0.21)
Ideology	-0.054	-0.027	-0.061	0.0027
	(0.057)	(0.050)	(0.047)	(0.066)
Cat ID	-1.16***	-1.17***	-1.06***	-1.05***
	(0.24)	(0.22)	(0.21)	(0.28)
Treat. 4	0.29			
	(0.23)			
Treat. 5		0.42**		
		(0.21)		
Treat. 6			0.49**	
			(0.21)	
Extremadura asked				-1.19**
				(0.57)
Constant	-0.88	-2.19***	-0.80	-2.10***
	(0.69)	(0.64)	(0.60)	(0.80)

N	475	565	578	344
pseudo R^2	0.058	0.068	0.049	0.087

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Section 5. Conclusions and Extensions

In this paper we present one of the few studies on individual preferences over regional redistribution, a question that has been surprisingly understudied given the recent explosion in research on fiscal federalism. We provide and test some simple micro-foundations of such preferences across different levels in an illustrative multi-tiered system of Spain. We find that preferences of regional redistribution cannot be explained completely by the simple baseline model of regional income. But, we find some support for recent theoretical frameworks that explicitly incorporate the interplay between individual and regional incomes, and build on this by testing assumptions about knowledge of regional incomes, ideology, and second dimensional issues. Regarding the basic income variables, we find that poorer individuals in richer regions are hostile towards regional redistribution. And consistent with the literature on second-dimensional politics (Amat 2012), we find that individuals in the richer linguistically distinct regions are more hostile towards regional redistribution.

We additionally test and confirm basic hypotheses with an experiment and find that information provision about a region's *relative income* affects preferences for regional redistribution. This manipulation of information is akin to exogenously manipulating relative income; thus changes in relative regional income are linked to preferences in regional redistribution. Individuals who learn they are poorer are more supportive of redistribution, and those in richer regions who learn they are richer become *less* supportive of such redistribution. Importantly, this latter result is largely driven by *poorer individuals in richer regions*, a result consistent with our intuitions about how such individuals view regional redistribution.

We also find that political ideology is a strong moderator in the relationship between regional income and preferences for inter-regional redistribution. Left-wing individuals who learn that they live in a poorer region than they thought become significantly more in favor of inter-regional redistribution, while those who learn that they live in a richer region than they thought become more opposed. In contrast, right wing respondents' views towards to inter-regional transfers are affected more by priming of out-groups.

We find less evidence of such informational effects in Catalonia, though we find more evidence of second-dimensional considerations affecting views towards regional redistribution (based on priming consideration of specific regions). The null information results in Catalonia could exist because the issues or information regarding relative regional ranking are less important, or because the salience of the issue of inter-regional transfers in the current public debate implies that Catalan respondents have already factored in the effect of these relative economic considerations in their preferences.

Our empirical design and results have broader implications. They first provide a gap in explaining redistribution preferences in multilevel systems. Second, they also demonstrate the ways in which providing simple information and exogenously manipulating relative income can affect preferences for regional redistribution. Overall, we hope that this paper lays a foundation for examining more specific ways in which relevant information as well as out-group priming affects preferences over issues relevant to fiscal federalism, as politicians would surely use both to shape the nature of political debate on this heated topic.

Appendix A: Netquest Protocol

The Netquest survey uses opt-in panels, based on existing databases of nationally representative samples of residents of Spain. The panel is constrained to individuals at least 18 years of age. The sample is stratified with representative quotas of the Spanish population by geographical area (seven geographical areas), age group, and gender. Netquest compensates economically all participants with vouchers that can be used later to purchase goods at Netquest's online store. Full documentation on sample compilation is available upon request.

Appendix B: Rankings of Regions (1= richest; 19 = poorest)

1	Basque Country
2	Navarra
3	Madrid
4	Catalonia
5	Rioja
6	Aragon
7	Balearic Islands
8	Castile and Leon
9	Cantabria
10	Asturias
11	Galicia
12	Valencia
13	Ceuta
14	Canary Islands
15	Murcia
16	Castile – La Mancha
17	Melilla
18	Andalusia
19	Extremadura

The ranking is made on the basis of 2011 regional GDP per capita.
Source: Instituto Nacional de Estadística (2012).

Appendix C: Descriptive Statistics

	Mean (Std.Dev)		Total (Percent)	
	Spain without Cat.	**Catalonia**	**Spain without Cat.**	**Catalonia**
Female			1431 (51%)	575 (48%)
Age	38.7 (11.5)	44.6 (12.8)		
Household Size	3.08 (1.3)	2.9 (1.1)		
Ideology (1-10)	4.51 (2.2)	3.87 (2.04)		
Income Decile	5.5 (2.8)	6.3 (2.67)		
Education (3 categories)	2.44 (.67)	2.44 (.66)		
Unemployed			594 (21.2%)	180 (15%)
Identifies as More Catalan than Spanish				616 (52%)
Catalan Language Native				566 (47%)

Supplemental Online Appendix

SOA Table A1. Comparison of Samples. Spain (without Catalonia)

Variable	Netquest survey	National Representative Survey	Survey
Female	Women: 51%	Women: 51%	CIS 2976. January 2013
Age	Mean: 38.7% (sd: 11.5) 18-24: 12.35% 25-34: 26.92% 35-44: 29.87% 45-55: 21.02% 55+: 9.84%	Mean: 47.52% (sd: 17.6) 18-24: 8.75% 25-34: 20.01% 35-44: 20.85% 45-54: 17.94% 55+: 32.45%	CIS 2976. January 2013
Vote recall (Nov. 11 elections)	PSOE: 19.11% PP: 27.32% IU: 9.21% UPyD: 8.32%	PSOE: 22.22% PP: 30.35% IU: 5.68% UPyD: 3.51%	CIS 2976. January 2013
Ideology (1-10)	4.51 (sd: 2.2)	4.85 (sd: 1.84)	CIS 2976. January 2013
Education	Primary or basic secondary: 10.17% Upper secondary: 36.87% University: 52.96%	Primary or basic secondary: 45.02% Upper secondary: 30.16% University: 24.82%	CIS 2976. January 2013
Unemployed	21.2%	26.31%	CIS 2976. January 2013
Income	We define income deciles based on the information INE's *Encuesta de Condiciones de Vida* (The national representative survey used in international studies on income distribution such as the Luxembourg Income Study). Perfect representativeness of the survey means that 10 % of the sample fall into each decile. The actual percentages for each decile are the following: 1^{st} : 8.25%; 2^{nd}: 11.25%; 3^{rd}: 9.71%; 4^{th}: 10.25%; 5^{th}: 10.21%; 6^{th}:10.54%; 7^{th}:10.11%; 8^{th}: 11.29%; 9^{th}: 10.93%; 10^{th}: 7.46%		INE, Encuesta de Condiciones de Vida 2011.

SOA Table A2. Comparison of Samples. Catalonia

Variable	Netquest survey	National Representative Survey	Survey
Female	Women: 51.0%	Women: 50.7%	CIS 2976. January 2013
Age	Mean: 38.7% (sd: 11.5) 18-24: 9.7% 25-34: 15.65% 35-44: 19.14% 45-55: 28.41% 55+: 27.10%	Mean: 47.52% (sd: 17.6) 18-24: 7.81% 25-34: 20.65% 35-44: 20.15% 45-54: 17.88% 55+: 33.5%	CIS 2976. January 2013
Vote recall (Nov. 11 elections)	PSOE: 16.83% PP: 9.42% IU: 8.92% UPyD: 1% CiU: 19.5%	PSOE: 20.54% PP: 7.92% IU: 8.66% UPyD: 1.49% CiU: 12.38%	CIS 2976. January 2013
Ideology (1-10)	3.87 (sd: 2.04)	3.94 (sd: 1.84)	CIS 2976. January 2013
Education	Primary or basic secondary: 10.09% Upper secondary: 39.19% University: 50.71%	Primary or basic secondary: 40.1% Upper secondary: 35.5% University: 24.5%	CIS 2976. January 2013
Unemployed	15.1%	26.98%	CIS 2976. January 2013
Income	We define income deciles based on the information INE's *Encuesta de Condiciones de Vida* (The national representative survey used in international studies on income distribution such as the Luxembourg Income Study). Perfect representativeness of the survey means that 10 % of the sample fall into each decile. The actual percentages for each decile are the following: 1^{st}: 5.25%; 2^{nd}: 6.42%; 3^{rd}: 7.33%; 4^{th}: 8.17%; 5^{th}: 10.5%; 6^{th}:11.25%; 7^{th}:11.33%; 8^{th}: 13.25%; 9^{th}: 14.92%; 10^{th}: 11.58%		INE, Encuesta de Condiciones de Vida 2011.

SOA Table B: Randomization Checks

	Group 1 Spain exc Cat	Group 2 Spain exc Cat	Group 3 Catalonia	Group 4 Catalonia	Group 5 Catalonia	Group 6 Catalonia
Age	-0.00237	0.00237	-0.00507	-0.00108	-0.00693	0.0116**
	(0.00348)	(0.00348)	(0.00609)	(0.00585)	(0.00527)	(0.00534)
Region rank	-0.00281	0.00281				
	(0.00672)	(0.00672)				
Female	-0.0202	0.0202	-0.0637	-0.101	-0.0106	0.137
	(0.0789)	(0.0789)	(0.153)	(0.146)	(0.132)	(0.131)
Ideology	0.00544	-0.00544	0.0628*	0.00913	-0.0152	-0.0394
	(0.0172)	(0.0172)	(0.0364)	(0.0352)	(0.0319)	(0.0319)
Unemployed	-0.0638	0.0638	-0.229	0.0682	0.160	-0.0503
	(0.0987)	(0.0987)	(0.230)	(0.212)	(0.189)	(0.190)
HH size	0.0227	-0.0227	-0.00609	-0.0223	0.126**	-0.103*
	(0.0331)	(0.0331)	(0.0670)	(0.0645)	(0.0584)	(0.0588)
Income decile	0.00189	-0.00189	-0.0327	0.0118	0.0161	-0.00132
	(0.0156)	(0.0156)	(0.0306)	(0.0295)	(0.0265)	(0.0264)
Educ cat	-0.0429	0.0429	0.124	0.176	-0.0710	-0.152
	(0.0613)	(0.0613)	(0.120)	(0.116)	(0.101)	(0.100)
_cons	0.186	-0.186	-1.485**	-1.684**	-0.840*	-0.595
	(0.270)	(0.270)	(0.535)	(0.516)	(0.461)	(0.463)
N	2756	2756	1183	1183	1183	1183
pseudo R^2	0.001	0.001	0.005	0.003	0.006	0.010

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Table C1: Non effects when primed to rank neighboring regions, for those who learn they are poorer

	(1) All	(2) Low income, rich region	(3) Low income, poor region	(4) High income, rich region	(5) High income, poor region	(6) Left	(7) Non-left
Region Rank	0.0177	-0.0517	0.0641	0.0297	0.121**	0.0364	0.0113
	(0.0169)	(0.169)	(0.0471)	(0.139)	(0.0512)	(0.0281)	(0.0217)
Income decile	0.0158	-0.0470	0.107	-0.224	-0.0420	0.125**	-0.0573
	(0.0349)	(0.289)	(0.0932)	(0.228)	(0.111)	(0.0594)	(0.0446)
Female	-0.190	0.424	-0.292	-0.399	-0.118	-0.294	-0.138
	(0.177)	(0.937)	(0.263)	(0.559)	(0.316)	(0.291)	(0.230)
Age	0.208**	0.728	0.206*	-0.178	0.230	0.267*	0.190*
	(0.0834)	(0.503)	(0.121)	(0.283)	(0.149)	(0.142)	(0.107)
Neigh Asked	0.0824	1.232	0.356	0.580	-0.475	-0.0368	0.187
	(0.189)	(1.072)	(0.283)	(0.727)	(0.312)	(0.321)	(0.239)
Unemployed	-0.0980	-0.129	0.0897	-1.461	-0.152	0.214	-0.311
	(0.219)	(0.915)	(0.281)	(1.321)	(0.475)	(0.351)	(0.286)
Educ cat	0.0885	0.880	-0.283	1.020*	0.303	0.0794	0.0553
	(0.132)	(0.659)	(0.187)	(0.569)	(0.245)	(0.221)	(0.169)
Ideology	-0.125**	-0.248	-0.105*	-0.359**	-0.0993	0.162	-0.0679
	(0.0376)	(0.204)	(0.0547)	(0.135)	(0.0665)	(0.137)	(0.0719)
_cons	0.220	-2.041	-0.181	2.140	-1.559	-1.289	0.365
	(0.507)	(2.162)	(0.970)	(2.005)	(1.294)	(0.836)	(0.762)
N	623	36	288	77	222	271	352
pseudo R^2	0.026	0.134	0.042	0.154	0.052	0.048	0.018

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Table C2: Non effects when primed to rank neighboring regions, for those who learn they are richer

	(1) All	(2) Low income, rich region	(3) Low income, poor region	(4) High income, rich region	(5) High income, poor region	(6) Left	(7) Non-left
Region Rank	0.0874**	0.189**	-0.0400	0.179**	0.00720	0.0630**	0.118**
	(0.0190)	(0.0718)	(0.0873)	(0.0620)	(0.128)	(0.0264)	(0.0282)
Income decile	0.0514	-0.0382	0.109	-0.0582	0.156	0.0171	0.0987*
	(0.0347)	(0.148)	(0.126)	(0.115)	(0.173)	(0.0488)	(0.0511)
Female	-0.350*	-0.717*	0.0663	-0.449	-0.241	-0.248	-0.502*
	(0.179)	(0.396)	(0.370)	(0.309)	(0.491)	(0.251)	(0.266)
Age	0.0608	0.0274	-0.0798	0.170	0.426	0.0460	0.0760
	(0.0879)	(0.192)	(0.166)	(0.162)	(0.260)	(0.121)	(0.131)
Neigh Asked	0.00894	0.506	-0.0315	-0.349	-0.599	0.128	-0.0852
	(0.178)	(0.385)	(0.360)	(0.328)	(0.500)	(0.257)	(0.255)
Unemployed	0.189	0.526	0.308	0.410	-1.038*	0.349	0.0740
	(0.217)	(0.416)	(0.356)	(0.527)	(0.609)	(0.307)	(0.323)
Educ cat	0.159	0.421	-0.151	0.248	0.127	0.150	0.173
	(0.144)	(0.303)	(0.264)	(0.296)	(0.436)	(0.210)	(0.208)
Ideology	0.0411	-0.209**	0.127	0.123*	0.243**	-0.0204	-0.0179
	(0.0404)	(0.0854)	(0.0902)	(0.0734)	(0.115)	(0.117)	(0.0943)
_cons	-1.428**	-1.123	0.362	-1.538	-2.522	-1.003	-1.434
	(0.548)	(1.229)	(1.505)	(1.300)	(2.508)	(0.787)	(0.903)
N	589	146	148	197	98	305	284
pseudo R^2	0.041	0.101	0.019	0.061	0.106	0.024	0.070

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Table D1: Ranking two other regions as poorer or richer and effect if one learns region is poorer

	(1) All	(2) Low income, rich region	(3) Low income, poor region	(4) High income, rich region	(5) High income, poor region	(6) Left	(7) Non-left
Region rank	-0.000703	0.175	0.0141	-0.0204	0.130**	0.0259	-0.0112
	(0.0220)	(0.199)	(0.0562)	(0.188)	(0.0596)	(0.0344)	(0.0302)
Income decile	-0.00982	0.225	0.129	-0.0170	-0.120	0.0933	-0.0879*
	(0.0394)	(0.341)	(0.106)	(0.269)	(0.129)	(0.0649)	(0.0514)
Female	-0.159	0.347	-0.204	0.0378	-0.345	-0.0647	-0.259
	(0.199)	(1.167)	(0.304)	(0.622)	(0.349)	(0.322)	(0.260)
Age	0.211**	0.663	0.180	-0.161	0.339**	0.245	0.201*
	(0.0923)	(0.691)	(0.136)	(0.326)	(0.167)	(0.156)	(0.117)
Rank poorer other2	0.215	.	0.676*	-18.96	-0.475	0.0952	0.259
	(0.254)	.	(0.356)	(2969.2)	(0.422)	(0.412)	(0.327)
Rank richer other2	0.0441	1.299	0.245	-17.39	-0.120	0.169	-0.0709
	(0.251)	(1.503)	(0.376)	(2969.2)	(0.395)	(0.398)	(0.338)
Unemployed	-0.120	-0.908	0.120	-1.107	-0.335	0.190	-0.242
	(0.245)	(0.999)	(0.326)	(1.298)	(0.525)	(0.403)	(0.319)
Educ cat	0.134	1.198	-0.346	0.801	0.556**	0.103	0.144
	(0.151)	(0.824)	(0.225)	(0.698)	(0.278)	(0.245)	(0.198)
Ideology	-0.139**	-0.453	-0.0951	-0.375**	-0.148*	0.132	-0.0352
	(0.0437)	(0.283)	(0.0666)	(0.154)	(0.0758)	(0.157)	(0.0848)
_cons	0.394	-4.054	0.407	18.38	-1.920	-1.184	0.302
	(0.595)	(3.071)	(1.146)	(2969.2)	(1.441)	(0.991)	(0.906)
N	483	29	216	60	178	211	272
pseudoR^2	0.026	0.160	0.045	0.163	0.081	0.031	0.022

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Table D2: Ranking two other regions as poorer or richer and effect if one learns region is richer

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Region rank	0.0678**	0.218**	-0.0315	0.160**	0.0513	0.0502	0.0953**
	(0.0249)	(0.0879)	(0.101)	(0.0751)	(0.158)	(0.0356)	(0.0361)
Income decile	0.0500	-0.0139	0.126	-0.191	0.153	0.00762	0.101*
	(0.0395)	(0.176)	(0.141)	(0.141)	(0.205)	(0.0553)	(0.0586)
Female	-0.473**	-0.675	0.0733	-0.702*	-0.546	-0.335	-0.587**
	(0.203)	(0.453)	(0.426)	(0.367)	(0.592)	(0.286)	(0.299)
Age	-0.0150	-0.0261	-0.184	0.0454	0.484	-0.0757	0.0523
	(0.102)	(0.210)	(0.197)	(0.199)	(0.308)	(0.139)	(0.155)
Rank poorer other2	0.0962	0.620	-0.823*	0.758	0.291	-0.0461	0.162
	(0.232)	(0.519)	(0.453)	(0.464)	(0.636)	(0.330)	(0.337)
Rank richer other2	-0.385	-0.245	-0.0330	0.0868	0.250	-0.638*	-0.164
	(0.274)	(0.556)	(0.937)	(0.435)	(1.089)	(0.379)	(0.415)
Unemployed	0.00718	0.396	0.153	-0.217	-0.840	0.226	-0.195
	(0.244)	(0.483)	(0.401)	(0.626)	(0.776)	(0.339)	(0.364)
Educ cat	0.0790	0.291	-0.153	0.331	-0.0697	0.0243	0.0870
	(0.165)	(0.353)	(0.306)	(0.351)	(0.494)	(0.237)	(0.247)
Ideology	0.0340	-0.180*	0.0297	0.144*	0.259*	-0.0430	0.0347
	(0.0456)	(0.0953)	(0.109)	(0.0830)	(0.133)	(0.131)	(0.108)
_cons	-0.704	-0.908	1.447	-0.543	-3.086	0.139	-1.322
	(0.643)	(1.489)	(1.763)	(1.487)	(2.870)	(0.917)	(1.053)
N	469	118	118	154	79	245	224
pseudo R^2	0.048	0.126	0.038	0.093	0.116	0.042	0.072

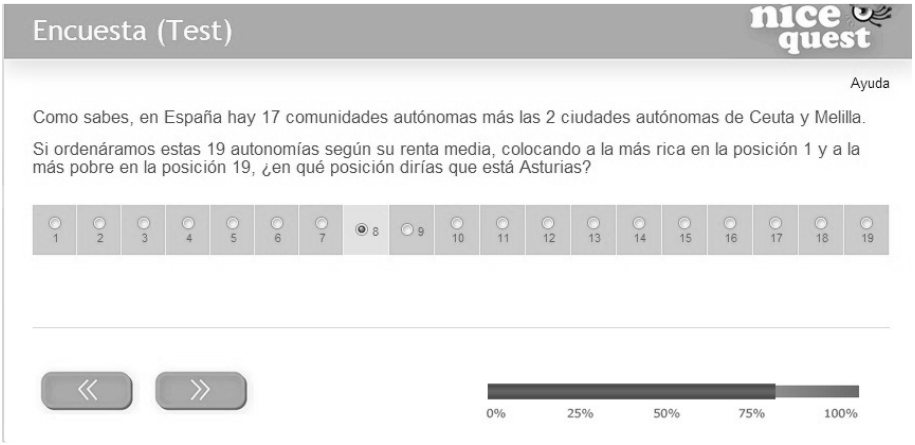
Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Table E: Lack of information effects by partisan vote intention

	PSOE supporters, learn richer	PSOE supporters, learn poorer	PP supporters, learn richer	PP supporters, learn poorer
Region rank	0.0569	0.0154	0.0641	0.00483
	(0.0382)	(0.0368)	(0.0392)	(0.0253)
Income decile	0.0234	0.00818	0.0871	-0.0111
	(0.0643)	(0.0714)	(0.0718)	(0.0546)
Female	-0.645*	-1.002**	-1.179**	-0.0546
	(0.345)	(0.369)	(0.382)	(0.287)
Age	0.160	0.299*	0.230	0.0621
	(0.174)	(0.166)	(0.183)	(0.138)
Unemployed	0.607	0.587	0.106	-0.238
	(0.457)	(0.436)	(0.448)	(0.343)
Educ cat	0.0237	0.324	0.192	-0.0264
	(0.253)	(0.253)	(0.305)	(0.227)
Ideology	0.121	-0.106	-0.00976	-0.154*
	(0.106)	(0.0978)	(0.106)	(0.0826)
Treatment	0.0336	0.123	0.346	-0.324
	(0.331)	(0.339)	(0.369)	(0.275)
_cons	-0.439	-0.0887	-1.373	1.791*
	(0.984)	(1.010)	(1.435)	(0.985)
N	183	201	141	241
pseudo R^2	0.052	0.084	0.099	0.019

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$

SOA Figure A. Screenshot of the AC's Placement Question



References

Aldás, Joaquín, Francisco J. Goerlich, and Matilde Mas. 2007. "Consumo de los Hogares y Distribución de la Renta en España (1973-2003)". Fundación Caixa Galicia, Centro de Investigación Económica y Financiera.

Alesina, Alberto, Enrico Spolaore, and Romain Wacziarg. 2005. "Trade, Growth and the Size of Countries." *Handbook of economic growth* 1: 1499-1542.

Amat, Francesc. 2012. "Party Competition and Preferences for Inter-Regional Redistribution." *South European Society and Politics* 17(3): 449-465.

Bakke, Kristin M., and Erik Wibbels. 2007. "Diversity, Disparity, and Civil Conflict in Federal States." *World Politics* 59(1): 1-50.

Beramendi, Pablo. 2012. *The Political Geography of Inequality: Regions and Redistribution*. New York: Cambridge University Press.

Beramendi, Pablo. 2007. "Inequality and the Territorial Fragmentation of Solidarity." *International Organization* 61(4): 783-820.

Billiet, Jaak, Rob Eisinga, and Peer Scheepers. 1996. "Ethnocentrism in the Low Countries: a Comparative Perspective." *Journal of Ethnic and Migration Studies* 22(3): 401-416.

Bolton, Patrick, and Gerard Roland. 1997. "The Breakup of Nations: a Political Economy Analysis." *The Quarterly Journal of Economics, 112*(4), 1057-1090.

Bordignon, Massimo, Paolo Manasse, and Guido Tabellini. 2001. "Optimal Regional Redistribution Under Asymmetric Information". *American Economic Review* 91(3): 709-723.

Bosch, Núria, Marta Espasa, and Pilar Sorribas. 2002. "La Capacidad Redistributiva y Estabilizadora del Presupuesto del Gobierno Central Español." *Hacienda Pública Española*: 47-76.

Ceobanu, Alin M., and Xavier Escandell. "Comparative Analyses of Public Attitudes Toward Immigrants and Immigration Using Multinational Survey Data: A Review of Theories and Research." *Annual Review of Sociology* (36): 309-328.

Chetty, Raj and Emmanuel Saez.2009. Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients. NBER Working Paper 14836 (April).

Colomer, Josep M. 1998. "The Spanish 'State of Autonomies': Non-institutional Federalism" *West European Politics* 21(4): 40-52.

Costa-Font, Joan, and Ramon Tremosa-Balcells. 2008. “Support for State Opting out and Stateless National Identity in the Basque Country.” *Journal of Socio-Economics* 37(6): 2464-2477.

de la Fuente, Angel. 2011. *La Financiación Territorial en España: Situación Actual y Propuestas de Reforma.* (Vol. I). Madrid: Civitas - Thomson Reuters.

de la Fuente, Angel, and María Gundín. 2007. *El Sistema de Financiación de las Ccaa de Régimen Común. Un Análisis Crítico y Algunas Propuestas de Reforma*. FEDEA 236.

Duflo, Esther, and Emmanuel Saez 2003. “The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment.” *The Quarterly Journal of Economics* 118 (3): 815-842.

Duckitt, John, Claire Wagner, Ilouize du Plessis, and Ingrid Birum. 2002. “The Psychological Bases of Ideology and Prejudice: Testing a Dual Process Model.” *Journal of Personality and Social Psychology* 83(1): 75-93.

Fernández-Albertos, José & Dulce Manzano 2012. "The Lack of Partisan Conflict over the Welfare State in Spain." *South European Society and Politics* 17 (3): 427-47.

Goren, Paul. 2004. “Political Sophistication and Policy Reasoning: A Reconsideration.” *American Journal of Political Science* 48 (3): 462-478.

Guinjoan, Marc, and Toni Rodón 2011. “Beyond Identities: Support for Decentralisation Across Regions in Spain.” Unpublished Manuscript, Universitat Pompeu Fabra.

Hodson, Gordon, and Kimberly Costello. 2007. “Interpersonal Disgust, Ideological Orientations, and Dehumanization as Predictors of Intergroup Attitudes.” *Psychological Science* 18(8): 691-698.

Instituto Nacional de Estadistica (INE). “Producto Interior Bruto Regional. Año 2011 Cuentas de Renta del Sector Hogares. Años 2008 y 2009" Notas de Prensa, 30 de Marzo de 2012.

Jacoby, William. 1991. “Ideological Identification and Issue Attitudes.” *American Journal of Political Science* 35 (1): 178-205.

Jost, John T., Christopher M. Federico, and Jaime L. Napier. 2009. “Political Ideology: Its Structure, Functions, and Elective Affinities.” *Annual Review of Psychology* 60: 307-337.

Klor, Esteban, and Moses Shayo. 2010. “Social Identity and Preferences over Redistribution.” *Journal of Public Economics* 94(3-4): 269-278.

León, Sandra. 2007. *The Political Economy of Fiscal Decentralization: Bringing Politics to the Study of Intergovernmental Transfers*. Barcelona: Institut d'Estudis Autonòmics.

León, Sandra. 2009. "¿ Por qué el Sistema de Financiación Autonómica es Inestable?" *Revista Española de Investigaciones Sociológicas* 128(1): 57-87.

Montasell, Gerard, and Esther Sánchez, E. 2012. *Comparació Internacional de les Balances Fiscals de les Regions amb el Sector Públic Central: una Anàlisi de L'efecte Redistributiu*. Papers de Treball, Generalitat de Catalunya, Departament d'Economia i Coneixement 1/2012.

Oates, Wallace E. 1999. "An Essay on Fiscal Federalism." *Journal of economic literature* 37(3): 1120-1149.

Paluzie, Elisenda. 2010. The Costs and Benefits of Staying Together: the Catalan Case in Spain. In *The Political Economy of Inter-Regional Fiscal Flows: Measurement, Determinants, and Effects on Country Stability,* eds. Núria Bosch, Marta Espasa, and Albert Solé-Ollé. London: Edward Elgar Publishing, 357-369.

Petersen, Thieb, Scheller, Henrik, and Ole Wintermann. 2008. "Public Attitudes towards German Federalism: A Point of Departure for a Reform of German (Fiscal) Federalism? Differences between Public Opinion and the Political Debate." *German Politics* 17(4): 559-586.

Pettigrew, Thomas, and Roel Meertens. 1995. "Subtle and Blatant Prejudice in Western Europe." *European Journal of Social Psychology* 25(1), 57-75.

Rodden, Jonathan. 2010. "Federalism and Inter-regional Redistribution." In *The Political Economy of Inter-Regional Fiscal Flows: Measurement, Determinants, and Effects on Country Stability,* eds. Núria Bosch, Marta Espasa, and Albert Solé-Ollé. London: Edward Elgar Publishing, 191-219.

Rodden, Jonathan. 2006. *Hamilton's paradox: the promise and peril of fiscal federalism*. New York: Cambridge University Press.

Rodden, Jonathan, and Erik Wibbels. 2010. "Fiscal Decentralization and the Business Cycle: An Empirical Study of Seven Federations." *Economics & Politic*s 22(1): 37-67.