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Size, Political Representation and Governance

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GeorgiaState University | ANDREW YOUNG SCHOOL OF POLICY STUDIES

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Size, Political Representation and Governance[1]

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1. Introduction

In the theoretical literature on government design, few variables have received more attention than the size of the polity. Since Plato's famous prediction that the optimal size of a political unit should be 5040 free citizens, the list of thinkers concerned about state size would include Aristotle, Montesquieu, Rousseau, and many of the founding fathers, among many others. One of the fathers of modern political science, Robert Dahl, devoted great attention to what he called the "elemental question of what is appropriate unit for a democratic political system … Among the vast number of theoretically possible ways of dividing up the inhabitants of this globe into more or less separate political systems, … are there any principles that instruct us as to how one ought to bound some particular collection of people, in order that they may rule themselves?" (Dahl 1967: 953).[2] Economists have not neglected these issues, as they conform the core of the fiscal federalism literature (Oates 1972). A more recent literature, pioneered by Alesina and Spolaore's work (1997, 2003), provides an elegant formal theoretical framework incorporating both political and economic elements in order to highlight the fundamental trade-off that the choice of the size of the policy inevitably faces: Large polities find it easier to provide more public goods, but confront the costly political problem of greater heterogeneity of preferences among the population.

In spite of these contributions, we are far from reaching a consensus on whether a larger (smaller) size brings, ceteris paribus, better government. Some empirical analyses have found a negative statistical relationship between size and proxies for good government (Olsson and Hansson 2011, Dreyer Lassen and Serritzlew 2011), others a positive one (Knack 2002), and yet others no significant relationship (Knack and Azfar 2000). Others have argued that the effect of size is conditional on the presence of other factors, such as the degree of openness to trade (Alesina, Spolaore and Wacziarg 1998).

There are many solid arguments that can be made in favour of bigger polities (most notably, the exploitation of economies of scale in the form of larger markets, cheaper provision of public goods, or better protection against external threats) as well as against (all of them more or less related to the difficulties associated to the presence of

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[2] See his highly lucid presidential address to the American Political Science Association (Dahl 1963), and his more elaborated essay on size and democracy (Dahl and Tufte 1973).

heterogeneous social preferences). As a result of these enormous theoretical possibilities, scholars usually consider the relationship between governance and country size as ultimately an empirical issue whose resolution often depends on the data set chosen (Knack and Azfar 2000, 7; Martins 1995).

Our contribution is twofold. First, rather than look at the general link between size and perceptions political outcomes, we look at the more delimited question of how size affects perceptions of *political representation* living in polities of different size. The second part of the empirical analysis exploits a unique survey on the perception of quality of the provision of public services across 116 European regions to see whether the size of the polity matters for perceptions of the quality of the provision of public services. For our purposes, the virtue of this dataset is that in enable us to compare perceptions of the quality of provision of public services by the public in an extremely large cross-section of political units, but all of them in a relatively similar and thus comparable context, the European Union.

These empirical strategy enable us to put to test several hypothesis from the standard framework used to understand the effects of size on governance. This view holds that governments in large polities may benefit from being able to provide better and cheaper public services, but political representation should unambiguously suffers as the size of the polity increases. As the "distance" between the citizen and her political leaders is greater in large polities, discrepancies between citizens and politicians are deemed to increase, and the ability of the latter to monitor and keep the former politically accountable is reduced. However, we note that the relationship between size and representation is slightly more complicated than this. Using cross-country individual level data from over forty countries, we show that, regardless of the indicator of representation used, the overall perception of political representation does not seem to be affected by the size of the polity. However, this does not imply that size is irrelevant. Perhaps more interestingly, the effect of size seems to operate not on the level, but on the variation of these perceptions within countries. People living in large polities tend to have more divisive views about how representation works in the political system (some expressing very favourable views, some very negative), while those living in small polities tend to have more similar perceptions of the quality of political representation.

This divisiveness might be the result of the different incentives that governments have in large, heterogeneous polities. And it could explain why, across European regions, the perception of the quality of public services is better in small regions, as we find in the second part of the empirical analysis..

The paper is organized as follows. Section 2 presents the theoretical hypotheses on why and how the size of a polity should affect governance. Section 3 provides the analysis of individual views on political representation in a sample of 42 countries. Section 4 looks at the effect of size on perceptions of quality of government using a novel dataset covering a sample of 117 regions in the European Union. Section 5 concludes.

2. Theoretical expectations

Some of the gains from size theorized in the literature (most notably, Alesina and Sploaore 2003) are related to the provision of some public goods (defense, a large market to sustain trade) are going to be assumed constant in what follows. These aspects are indeed crucial to understand historically the dynamics of the state, but we restrain our analysis to a time period and context (the current European Union) in which these two factors can be safely assumed to not vary greatly across countries or political units more broadly.

In these contexts, gains from size might derive from several and well known channels. First, there might be economies of scale (Alesina and Spolaore 2003), as the costs for providing certain public goods are irrespective of the number of users (Alesina and Wacziarg 1998). Second, a larger size implies government enjoys more diversified economic resources and more human resources (ceteris paribus, a larger pool of qualified would-be public employees). This mechanism may play a major role in explaining the positive effect of population size found in within-US studies regarding both local polities (Rice 2001) and states (Rice and Sumberg 1997, Knack 2002). These within-country studies acquire a special relevance in the literature on the impact of size because they control for country-specific factors and, in addition, the authors have included a number of variables aimed at capturing the effects of other variables not available at cross-national level. These authors argue that, notwithstanding the potential indirect negative consequences that size might exert on governance as a result of greater diversity (see

below), it might have a direct positive impact, allegedly thanks to an increase of government capacity.

On the other hand, the main drawbacks of large polities are related to the problems of organizing the democratic functioning of heterogeneous political units. Already Aristotle recognized that "it is difficult, if not impossible, for a populous state to be run by good laws" (quoted in Knack and Azfar 2003: 3). Alesina (2003) puts it simply: "as heterogeneity increases, more and more individuals or regions will be less satisfied". Heterogeneity makes more complicated the decisions over how to provide public goods, since the way in which a public good is provided typically has distributional consequences. In the worst case, social, political, and economic heterogeneity (all of them are arguably related to the size of the polity), might lead to all sort of tensions and perhaps to outright intra-country conflicts. What is important to note is that all these arguments can be framed in terms of a structural deterioration of the quality of political representation: in large and thus heterogeneous polities, the link between political representatives and those represented is weakened, as their views and preferences are more likely to differ and enter in conflict. These concerns are at the root of the demand of greater decentralization and municipal democracy. Already in 1967, Dahl concluded that "as the optimum unit for democracy in the 21st Century, the city has a greater claim, I think, than any other alternative" (1967: 964).[3]

A slightly different political mechanism that emphasizes the virtues of small communities is not directly linked to the degree of proximity between the representatives and the people, but with the ability of the latter to control effectively the former. More than classical Greece's philosophers, the inspiration here comes from French modern ones. For Montesquieu (quoted in Olsson and Hansson 2011, 613), "in a small republic, the public good is more strongly felt, better known, and closer to each citizen"; and for Rousseau "all citizens know each other and keep an eye on each other" (ibid.). Small polities, in this view, facilitate the gathering and sharing of information among the public necessary to hold politicians accountable. In large political systems, sharing common views about the action of politicians is more difficult, as it is to coordinate actions among citizens to reward those leaders who act in the interest of the community and punish those

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[3] For critical views on this idea, see Larsen (2002) and Newton (1982).

who do not. As a result, politicians should be expected to enjoy more slack in large polities, and their political incentives to deliver good public policies should decrease.

The solid lines in Figure 1 represent how we should expect the size of the polity to affect the quality of democratic governance through these "standard" channels, well established in the literature. On the one hand, size should be expected to be associated with a deterioration of political representation, but on the other, governments in large polities enjoy greater opportunities to provide services to the public more effectively. As these two forces move in opposite directions, the overall effect of size on the quality of is thus indeterminate.

Figure 1. Expected effects on size and quality of government
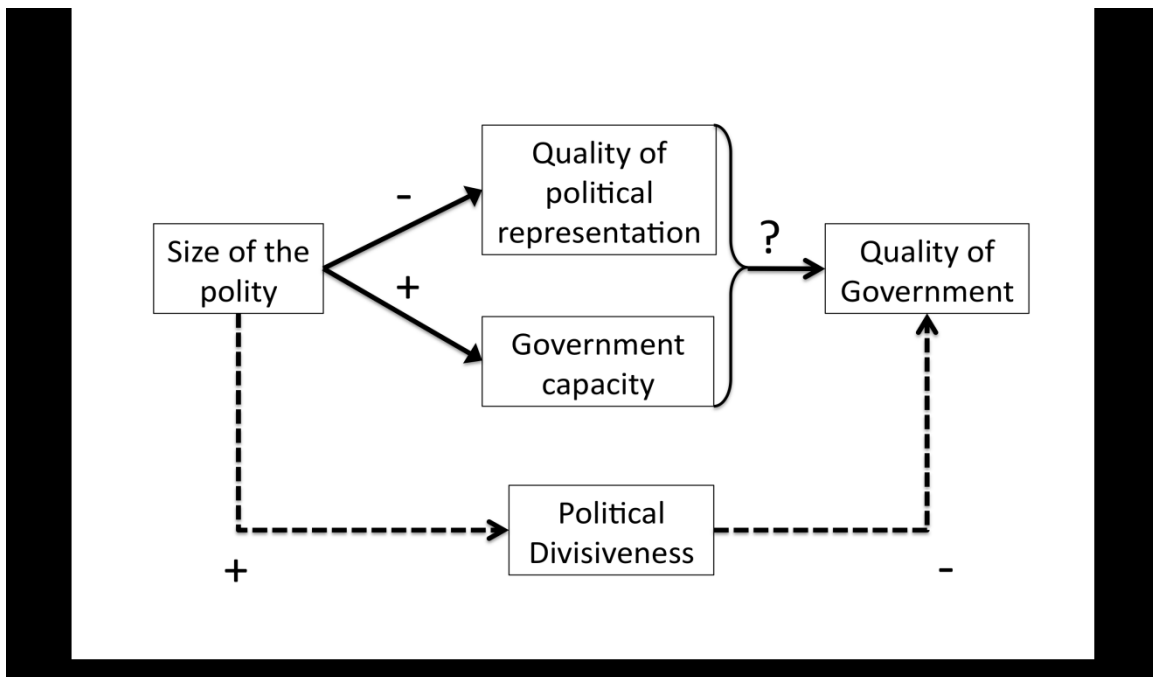
The bottom part of the figure represents in dashed lines a third possible causal chain between size and the quality of governance also related to the effects that size has on the functioning of political representation. Large polities might not (only) have, but perhaps more importantly, may have publics with more divergent perceptions about how political representation works. The reason is relatively simple. Following the previous discussion about the problems that heterogeneity of preferences creates, in large polities it becomes more difficult to accommodate the demands of the whole public. If governments in large polities have difficulties in building overarching coalitions (because of the greater heterogeneity of preferences) and are tempted to favor small "minimum

winning coalitions" underpinned by the use of highly distributional policies to favor those in that coalition, it is possible that those individuals who fall into the "winning" coalition will feel very well represented by the political system while political "losers" will tend to feel alienated. The overall effect of size may or may not be a corrosion of the overall perception of representation: some groups will probably express disaffection towards the political system, but this might be outweighed by the fact that the "winners" will be very become more attached to it. In other words, the political "losers" – i.e. those citizens whose preferences are closest to the incumbents' – will have more positive assessments of the way political representation works in small polities than in large ones, while the effect is the opposite for political "winners". This third possibility thus suggests that size might be associated not necessarily with worse general perceptions over how political representation works, but with more divisive ones. The consequences of a more divisive public are likely to be harming for the quality of government, for several reasons. First, in these contexts, consensus is more difficult to reach, political conflicts are more likely to erupt, and public goods will be more difficult to be provided. But perhaps more importantly, the fact that heterogeneity is associated with government action geared towards distributional issues washes away one of the big advantages of open and democratic polities: the fact that policy competition leads to more efficient policy-making (Belsey 2001). All in all, size might be, via its impact on divisiveness, related to worse quality of government.

In terms of the theoretical expectations outlined in Figure 1, our empirical strategy follows two steps. First, by looking at individual level data on perceptions of political representation in different contexts, we are able to test the hypotheses represented by the first and third arrow (whether size affects the perception of political representation and whether size affects the degree of heterogeneity on perceptions of political representation). Second, by looking at perceptions of quality of government in more than a hundred comparable political units (European regions), we are able to evaluate the validity of the relationship between size and quality of government (the two arrows represented in the right of the diagram). The next two sections conduct these two exercises, respectively.

3. Size and perceptions of the quality of political representation: A cross-country survey analysis.

The first part of the empirical analysis exploits the second module of the Comparative Study of Electoral Systems (CSES) dataset[4]. This dataset compiles post-electoral national representative surveys administered in national-level elections from forty-two countries, in the time span from 2001 to 2007, and complements this individual-level data with macro-level variables both from the electoral district and from the country where the election took place. For our purposes, the second module is particularly useful to address the first set of empirical questions on the degree of perception of the quality of representation across polities, for two reasons. First, it is one of the few available datasets that incorporates information from a large cross-section of political systems, thus allowing us to investigate the effect of macro-level variables (namely, size) on the public's perception about the quality of political representation in the polity. Second, the second module of the CSES was specifically designed to address questions about the nature of political representation, making it possible to see whether size matters differently to the various interpretations that quality of representation might have (ideological closeness to representatives, satisfaction with the way democracy works, perception about the degree of representativeness of political leaders, ability of elections to influence policy outcomes,…).

More precisely, to assess the perception of the quality of political representation, we shall use seven different individual-level indicators from the CSES dataset:

a) "satisfaction", the degree of satisfaction with democracy (measured in a scale from 1 to 4)

b) "vote matters", the belief that votes in elections matters for what happens (measured in a scale from 1 to 5)

c) "democracy good", the degree of which the respondent agrees with the statement that democracy is the best form of government (in a 1 to 4 scale).

d) "representation", the belief that elections ensure that the views of voters are represented by parties (in a 1 to 4 scale).

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[4] More details on the design of the questionnaires, the design of the compiled dataset, and the dataset itself can be found in www.cses.org

e) "party rep views", the extent to which the respondent belief that there exists a political party that represents his or her views,

f) "leader rep views", the extent to which the respondent belief that there exist a leader that represents his or her views,

g) "proximity", the degree of ideological proximity between the individual and the government in a 0-10 scale.[5]

Figures 2 and 3 plot the relationship between size (measured as the log of land size in square km in Figure 2, and as the log of the mid-year population in Figure 3) with the national averages of four of these indicators of quality of representation.[6] At first glance, there seems to be no clear association between size and quality of political representation. Contrary to our expectation that smaller countries should have publics more satisfied with the functioning of representation in their political system, this preliminary evidence suggest no such systematic relationship exists.

Figure 2. Land size and perceptions of quality of representation (CSES national means)

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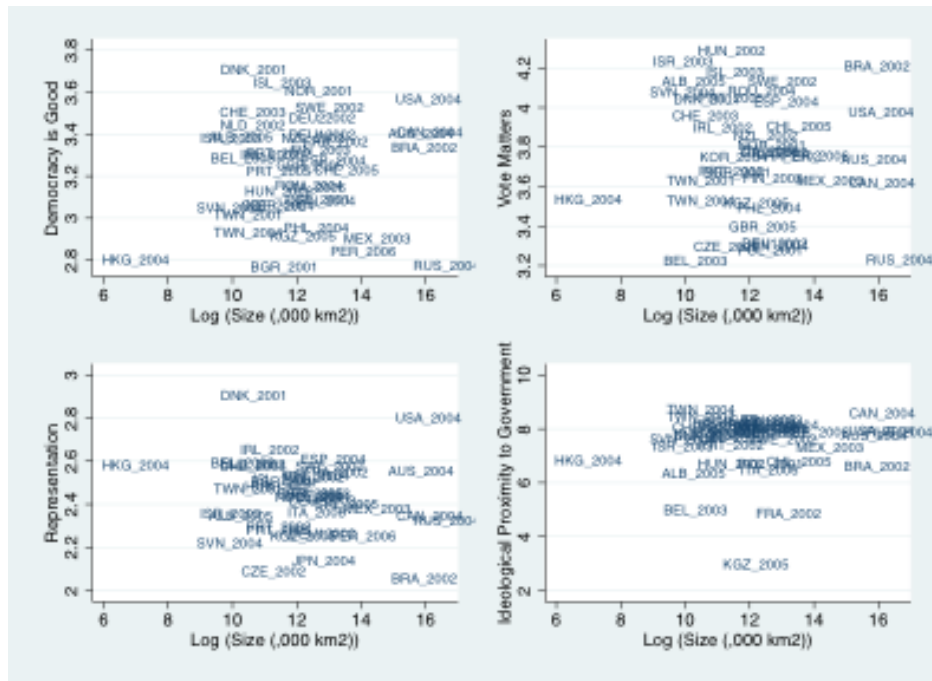
[5] As respondents are asked to place all relevant political parties in this 0-10 ideological scale, we can compute the government's ideology as the average position of all parties in government, weighted by the proportion of portfolios held by party-affiliated ministers by each party. The use of this variable has forced us to limit the analysis to the thirty-seven elections for which this information on this variable was i) available, and ii) reliable.

[6] The scatterplots for the remaining three indicators (not shown, available upon request) are equally inconclusive.

Figure 3. Population and perceptions of quality of representation (CSES national means)
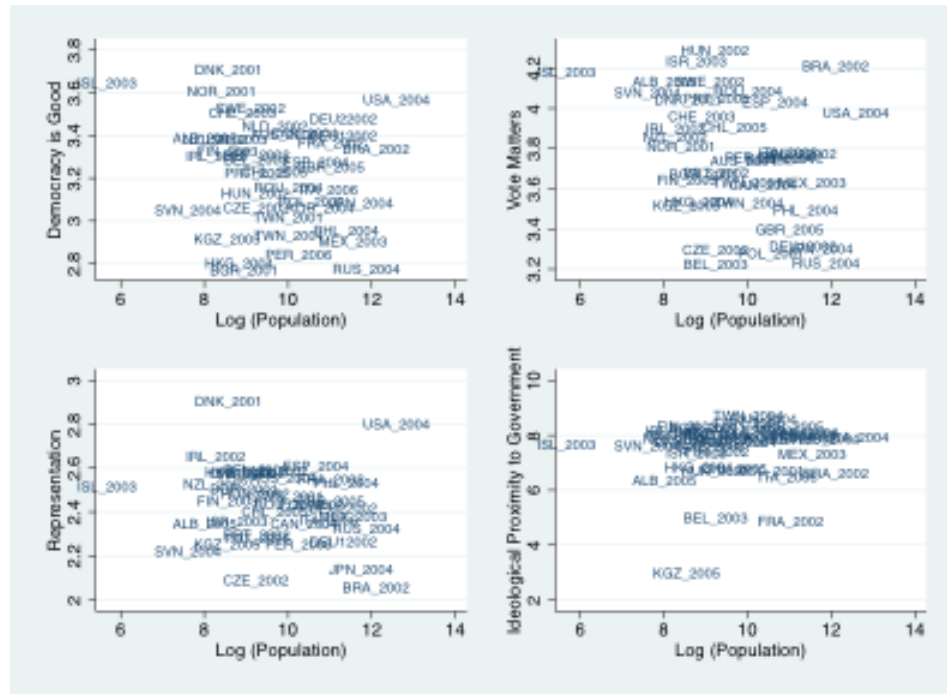
To evaluate more systematically the hypothesis that size matters for perceptions of representation, and given the nature of the data (individuals clustered in national surveys) we run a series of multi-level regressions with random intercepts for each national election survey of the following form:

$$R_{ij} = \beta_{0j} + \beta X_{ij} + e_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01} SIZE + u_{0j}$$

,where R refers to the indicator of political representation, and subscripts refer to individual i in election j. X is a vector of micro-level characteristics of the individual that might affect her views towards the political system through a vector of coefficients β, and e is the error term). Because the size of the polity is a country-specific variable, we include this variable in the second-level equation.

Tables 1 (including the log population as explanatory variable) and 2 (including size) present the first set of results, in which the dependent variables are the first four indicators of representation. All regressions include a battery of individual-level covariates that could affect the propensity to evaluate the political system differently

(age, sex, education, labor market position, and the fact of being approached by parties during the campaign, and the ideological proximity to the government)[7]. For each dependent variable we estimate two models, one in which size is the only second-level explanatory variable, and one in which we add macro-level controls too: an external indicator of quality of government (the widely used indicator from the International Country Risk Guide (ICRG), Alesina's measure of ethno--linguistic fractionalization, and two institutional dummies: whether the country has a federal constitutional structure, and whether the electoral system is proportional.[8]

Some of these variables do exert systematic effects in perception of the quality of political representation in the expected direction, but the two measures of size, although signed in the expected direction, are almost always statistically insignificant. The only exception seems to the result for the notion that vote matters for outcomes. Publics living in highly populated countries tend to have a more pessimistic view about the ability of votes to influence the policy-making process.

If instead of these indicators of political representation we take as dependent variable the belief that there is a party or a leader that represents the respondent's views or the degree of ideological proximity of the respondent to the government, the results are unchanged.[9] Regardless of the indicator used, there is no systematic relationship between size and the public's average perception of the quality of political representation. The expectation of a negative sign in the first arrow of Figure 1 does not seem to be borne out by the evidence.

Let us look at the alternative hypotheses suggested in the theoretical section. In large polities, as discussed before, the large heterogeneity of preferences might mean that system evaluations are largely driven by distributive, individual-specific characteristics. When preference heterogeneity is rampant, personal, divisive views about the government might exert a large influence on how do individuals evaluate the quality of

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[7] The number of individual controls is limited for two reasons: first, the number of questions available in all surveys is not large, and second, and more importantly, we should not control for variables that could be interpreted as perceptions or evaluations of the political system, as long as these variables could be the mechanisms through which size matters for perceptions of representation.

[8] All variables are taken from the Quality of Government time-variant dataset (http://www.qog.pol.gu.se/), and are measured for the year in which the survey was conducted in each country.

[9] Results not reported, but available upon request)

Table 1. Effect of population size on perception of representation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	satisfaction	satisfaction	vote_matters	vote_matters	dem_good	dem_good	representation	representation
main								
logpop	-0.019	-0.010	-0.078**	-0.078*	-0.028	-0.032	-0.0097	-0.0047
	(0.033)	(0.027)	(0.031)	(0.043)	(0.027)	(0.024)	(0.019)	(0.023)
prox	0.0058**	0.0056**	-0.027***	-0.027***	-0.00077	-0.0013	-0.0022	-0.0020
	(0.0023)	(0.0023)	(0.0038)	(0.0038)	(0.0021)	(0.0021)	(0.0023)	(0.0024)
unemployed	-0.13***	-0.14***	-0.12***	-0.12***	-0.081***	-0.083***	-0.026	-0.026
	(0.017)	(0.017)	(0.027)	(0.027)	(0.015)	(0.015)	(0.017)	(0.017)
nonactive	0.0017	0.00099	-0.0029	-0.0027	-0.012	-0.013*	0.033***	0.032***
	(0.0090)	(0.0090)	(0.015)	(0.015)	(0.0081)	(0.0082)	(0.0093)	(0.0093)
education	0.045***	0.044***	0.083***	0.084***	0.15***	0.15***	-0.0054	-0.0053
	(0.0059)	(0.0059)	(0.0096)	(0.0096)	(0.0054)	(0.0054)	(0.0060)	(0.0061)
age2	-0.000051	-0.00011	0.0012***	0.0013***	0.0027***	0.0027***	-0.00052*	-0.00053**
	(0.00026)	(0.00026)	(0.00042)	(0.00042)	(0.00023)	(0.00023)	(0.00027)	(0.00027)
woman	-0.022***	-0.021***	0.017	0.015	-0.036***	-0.037***	0.032***	0.033***
	(0.0078)	(0.0078)	(0.013)	(0.013)	(0.0070)	(0.0071)	(0.0080)	(0.0080)
pol_part	0.017**	0.017***	0.21***	0.21***	0.060***	0.060***	0.068***	0.068***
	(0.0065)	(0.0065)	(0.011)	(0.011)	(0.0058)	(0.0059)	(0.0065)	(0.0065)
qog		1.25***		-0.36		0.68***		0.46*
		(0.28)		(0.45)		(0.25)		(0.25)
elf		-0.014		0.066		-0.16		-0.10
		(0.16)		(0.26)		(0.15)		(0.14)
proportional		-0.022		0.13		0.052		0.0052
		(0.063)		(0.100)		(0.056)		(0.055)
loggdppc		-0.0011		0.076		0.038		-0.027
		(0.078)		(0.12)		(0.069)		(0.067)
federal		0.18**		0.015		0.19***		0.072
		(0.073)		(0.12)		(0.065)		(0.065)
_cons	2.61***	1.56**	4.53***	3.94***	3.15***	2.25***	2.54***	2.40***
	(0.33)	(0.63)	(0.31)	(0.99)	(0.26)	(0.57)	(0.19)	(0.55)
sigma_u								
_cons	0.27***	0.16***	0.26***	0.24***	0.22***	0.14***	0.15***	0.13***
	(0.033)	(0.020)	(0.032)	(0.031)	(0.027)	(0.018)	(0.019)	(0.017)
sigma_e								
_cons	0.73***	0.73***	1.20***	1.20***	0.66***	0.66***	0.71***	0.71***
	(0.0027)	(0.0027)	(0.0044)	(0.0044)	(0.0024)	(0.0024)	(0.0028)	(0.0028)
N	37132	36770	36889	36536	36871	36542	33170	32821
chi2	158.9	200.6	618.2	628.4	1060.9	1086.3	147.2	155.6
sigma_u	0.27	0.16	0.26	0.24	0.22	0.14	0.15	0.13
sigma_e	0.73	0.73	1.20	1.20	0.66	0.66	0.71	0.71

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

Table 2. Effect of land size on perception of representation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	satisfaction	satisfaction	vote_matters	vote_matters	dem_good	dem_good	representation	representation
main								
logsize	0.015	0.0077	-0.018	-0.037	0.016	-0.010	-0.0074	-0.011
	(0.022)	(0.019)	(0.024)	(0.031)	(0.018)	(0.018)	(0.013)	(0.016)
prox	0.0075***	0.0056**	-0.025***	-0.027***	0.0010	-0.0013	-0.0022	-0.0020
	(0.0021)	(0.0023)	(0.0035)	(0.0038)	(0.0019)	(0.0021)	(0.0023)	(0.0024)
unemployed	-0.13***	-0.14***	-0.11***	-0.12***	-0.079***	-0.083***	-0.026	-0.026
	(0.016)	(0.017)	(0.026)	(0.027)	(0.014)	(0.015)	(0.017)	(0.017)
nonactive	0.0068	0.0010	-0.0028	-0.0028	-0.0079	-0.013*	0.033***	0.032***
	(0.0085)	(0.0090)	(0.014)	(0.015)	(0.0077)	(0.0082)	(0.0093)	(0.0093)
education	0.038***	0.044***	0.092***	0.084***	0.14***	0.15***	-0.0053	-0.0054
	(0.0056)	(0.0059)	(0.0092)	(0.0096)	(0.0051)	(0.0054)	(0.0060)	(0.0061)
age2	-0.000100	-0.00011	0.0011***	0.0013***	0.0029***	0.0027***	-0.00052*	-0.00053**
	(0.00024)	(0.00026)	(0.00040)	(0.00042)	(0.00022)	(0.00023)	(0.00027)	(0.00027)
woman	-0.020***	-0.021***	0.0039	0.015	-0.036***	-0.037***	0.032***	0.033***
	(0.0073)	(0.0078)	(0.012)	(0.013)	(0.0067)	(0.0071)	(0.0080)	(0.0080)
pol_part	0.020***	0.017***	0.21***	0.21***	0.062***	0.060***	0.068***	0.068***
	(0.0061)	(0.0065)	(0.010)	(0.011)	(0.0056)	(0.0059)	(0.0065)	(0.0065)
qog		1.28***		-0.050		0.79***		0.48**
		(0.27)		(0.44)		(0.25)		(0.24)
elf		-0.035		0.11		-0.15		-0.077
		(0.17)		(0.27)		(0.15)		(0.15)
proportional		-0.0098		0.18*		0.071		0.0020
		(0.060)		(0.097)		(0.055)		(0.053)
loggdppc		-0.0079		0.030		0.019		-0.030
		(0.076)		(0.12)		(0.069)		(0.066)
federal		0.15**		-0.029		0.17**		0.085
		(0.071)		(0.12)		(0.065)		(0.063)
_cons	2.24***	1.42**	3.95***	3.86***	2.66***	2.16***	2.53***	2.49***
	(0.27)	(0.64)	(0.30)	(1.04)	(0.23)	(0.59)	(0.17)	(0.55)
sigma_u								
_cons	0.27***	0.16***	0.29***	0.25***	0.22***	0.14***	0.15***	0.13***
	(0.031)	(0.020)	(0.034)	(0.032)	(0.026)	(0.018)	(0.019)	(0.017)
sigma_e								
_cons	0.73***	0.73***	1.21***	1.20***	0.66***	0.66***	0.71***	0.71***
	(0.0025)	(0.0027)	(0.0042)	(0.0044)	(0.0023)	(0.0024)	(0.0028)	(0.0028)
N	41616	36770	41422	36536	41232	36542	33170	32821
chi2	160.9	200.6	671.4	626.7	1177.3	1084.8	147.2	155.9
sigma_u	0.27	0.16	0.29	0.25	0.22	0.14	0.15	0.13
sigma_e	0.73	0.73	1.21	1.20	0.66	0.66	0.71	0.71

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

Table 3. Conditional effects on size

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	satisfaction	vote_matters	dem_good	representation	satisfaction	vote_matters	dem_good	representation

		rs		ion		rs		ion
main								
logpop	-0.016	-0.059	-0.075**	0.00062				
	(0.025)	(0.044)	(0.027)	(0.025)				
logsize					-0.046*	-0.056	-0.058**	-0.067***
					(0.019)	(0.033)	(0.020)	(0.018)
govt_ev	0.47***	0.21***	0.043	0.23***	0.37***	-0.018	0.018	0.089*
	(0.036)	(0.062)	(0.035)	(0.038)	(0.037)	(0.064)	(0.035)	(0.037)
prox	-0.086***	-0.048	-0.088***	-0.019	-0.080***	-0.013	-0.080***	-0.052**
	(0.016)	(0.027)	(0.015)	(0.017)	(0.015)	(0.027)	(0.015)	(0.016)
pop_ev	-0.0078*	-0.0096	0.0071*	-0.00022				
	(0.0036)	(0.0062)	(0.0035)	(0.0038)				
pop_prox	0.0096***	0.0023	0.0090***	0.0019				
	(0.0016)	(0.0028)	(0.0016)	(0.0017)				
size_ev					0.0014	0.010*	0.0074**	0.011***
					(0.0029)	(0.0050)	(0.0028)	(0.0029)
size_prox					0.0070***	-0.0010	0.0063***	0.0041**
					(0.0012)	(0.0021)	(0.0012)	(0.0012)
ideology	0.022***	0.014***	0.020***	0.012***	0.020***	0.012***	0.018***	0.012***
	(0.0017)	(0.0029)	(0.0016)	(0.0017)	(0.0016)	(0.0027)	(0.0015)	(0.0017)
unemployed	-0.11***	-0.097***	-0.078***	-0.0062	-0.11***	-0.096***	-0.079***	-0.0059
	(0.016)	(0.028)	(0.016)	(0.017)	(0.016)	(0.028)	(0.016)	(0.017)
nonactive	-0.0049	-0.016	-0.017*	0.026**	-0.0043	-0.016	-0.016	0.027**
	(0.0089)	(0.015)	(0.0085)	(0.0095)	(0.0089)	(0.015)	(0.0085)	(0.0095)
qog	0.93***	-0.45	0.65*	0.27	0.78**	-0.15	0.60*	0.20
	(0.26)	(0.46)	(0.29)	(0.25)	(0.26)	(0.43)	(0.27)	(0.24)
education	0.049***	0.085***	0.15***	-0.0080	0.049***	0.085***	0.15***	-0.0082
	(0.0058)	(0.0099)	(0.0055)	(0.0061)	(0.0058)	(0.0099)	(0.0055)	(0.0061)
age2	0.0000087	0.0015***	0.0028***	-0.00030	-0.000000021	0.0015***	0.0027***	-0.00031
	(0.00025)	(0.00044)	(0.00024)	(0.00027)	(0.00025)	(0.00044)	(0.00024)	(0.00027)
woman	-0.021**	0.029*	-0.035***	0.036***	-0.021**	0.028*	-0.035***	0.035***
	(0.0076)	(0.013)	(0.0073)	(0.0081)	(0.0076)	(0.013)	(0.0073)	(0.0081)
pol_part	0.022***	0.21***	0.061***	0.067***	0.023***	0.21***	0.061***	0.068***
	(0.0063)	(0.011)	(0.0061)	(0.0066)	(0.0063)	(0.011)	(0.0061)	(0.0066)
proportional	0.042	0.17	0.091	0.053	0.0093	0.20*	0.084	0.028
	(0.058)	(0.10)	(0.064)	(0.056)	(0.058)	(0.097)	(0.061)	(0.055)
loggdppc	0.022	0.070	0.014	-0.0044	0.045	0.031	0.018	0.011
	(0.073)	(0.12)	(0.080)	(0.070)	(0.074)	(0.12)	(0.078)	(0.069)
_cons	0.58	3.52***	2.58***	1.61**	0.90	3.82***	2.59***	2.38***
	(0.60)	(1.03)	(0.66)	(0.58)	(0.64)	(1.07)	(0.67)	(0.59)
sigma_u								
_cons	0.14***	0.25***	0.16***	0.13***	0.15***	0.25***	0.16***	0.14***
	(0.018)	(0.032)	(0.020)	(0.018)	(0.019)	(0.033)	(0.020)	(0.018)

sigma_e								
_cons	0.68***	1.18***	0.66***	0.68***	0.68***	1.18***	0.66***	0.68***
	(0.0026)	(0.0046)	(0.0025)	(0.0028)	(0.0026)	(0.0046)	(0.0025)	(0.0028)
N	33441	33488	33104	29545	33441	33488	33104	29545
chi2	5212.9	737.4	1649.1	1800.9	5207.6	737.9	1646.2	1827.1
sigma_u	0.14	0.25	0.16	0.13	0.15	0.25	0.16	0.14
sigma_e	0.68	1.18	0.66	0.68	0.68	1.18	0.66	0.68

Standard errors in parentheses
$^{*}\,p < 0.05$, $^{**}\,p < 0.01$, $^{***}\,p < 0.001$

representation. Those who side with the government will have an overtly sanguine assessment of the quality of political representation, whereas those excluded will be much more critical of the system as a whole. In contrast, in small, homogeneous communities evaluations of the current government, or the proximity to the leaders of the country should be relatively more independent of the evaluation of the system as a whole, insofar as this preference homogeneity contributes to the diffuse support that the system enjoys. To test for that conjecture, Table 3 presents the results of a set of multi-level regressions similar to the ones presented before, but in which the effect of size (population in models (1) through (4), and land in models (5 through 8) is allowed to vary for different types of respondents, depending her evaluation of the current government and her ideological proximity towards it.

The key parameters of interest here are the interaction terms, presented in rows (5) through (8). They indicate how the effects of government evaluations and ideological proximity on the perception of the quality of representation (measured in these four the change as the size of the country increases. In eight cases, the interaction term is positive and statistically significant, implying that, as expected, the political identity of the respondent is more closely associated with the evaluation of the political representation that the system provides in large polities than in small ones.

To get a sense of the magnitude of some of these effects, Figure 4 plots the marginal effect of a one-unit increase in the evaluation of the government on the variable "representation" for different values of the log of land size, and Figure 5 plots the marginal effect of a one-unit increase in the ideological proximity indicator on the variable "satisfaction with democracy" for different values of the log of population. These conditional effects are statistically and substantially significant, and they show that while personal views about the government are little informative of the individual's assessment of the quality of representation in small polities, in large ones these variables

are much more relevant. In other words, political "losers" tend to have more positive assessments of the way political representation works in small polities than in large ones, while the effect is the opposite for political "winners". In line with hypotheses (2) above, these results suggests that perceptions about political representation are more driven by distributional, divisive concerns in large countries than in small ones.

Figure 4. Marginal effect of Government Evaluations on perceptions of "representation", for different values of land size.
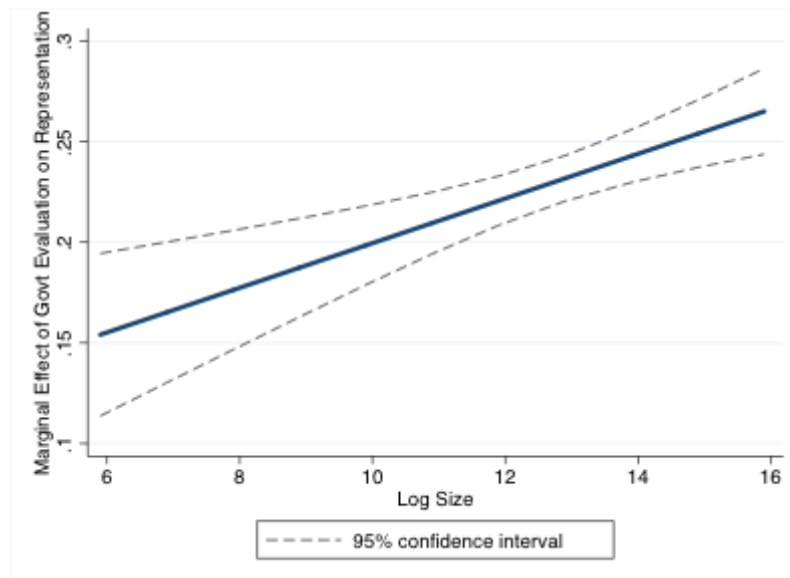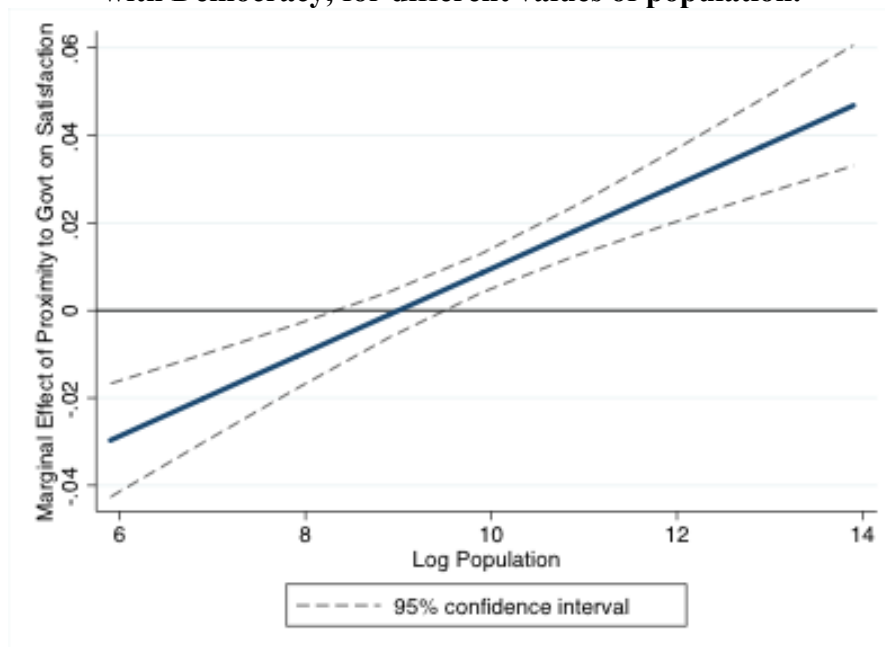

Figure 5. Marginal Effect of Ideological Proximity to Government on Satisfaction with Democracy, for different values of population.

Taking stock of these results, the size of the polity, either interpreted as geographical size or as the size of the population, does not appear to be directly related with better assessments of the quality of representation in democratic regimes, even after taking into consideration the effect of plausible individual and macro-level determinants of these assessments. However, this does not imply that size is completely irrelevant for the individuals' views of political representation. In small polities, both in terms of land size and population, perceptions about the quality of political representation appear much less driven by the personal ideological views of individuals (the assessment they make of the current government and the degree of ideological proximity towards the government) than in large ones. What does this imply for quality of government? The next section tries to shed some light on this question.

4. Size and perceptions of the quality of accountability: Exploiting variation across European regions.

Now we shift out attention to the comparison of perceptions of quality of the services provided by government. The previous analysis has found no clear relationship exists between size and overall perceptions of political representation. According to the standard theoretical expectations summarized by the solid lines in Figure 1, this suggests that polity size should be either positively related to quality of government (if there are gains from size in terms of government capacity), or unrelated to it (if no such relationship exists). However, according to the new hypothesis regarding the effect of size on political divisiveness (for which the preceding section has provided consistent evidence), the relationship between size and quality of government might well be negative, even if the political representation is unaffected by size. This section looks at these different possibilities, taking advantage of a rather unique dataset gathering information from more than a hundred political units. This datasets allows us to exploit the variation in the size of the polity not only at the national, but also at the sub-national level (Charron, Lapuente and Dykstra 2012).

Due to the novelty of the data itself, we describe each variable one by one, with particular attention to the dependent variable.

The dependent variable

With respect to data on 'quality of government' or corruption measures, national-level data has proliferated in recent years, yet measuring QoG at the regional level within most countries is 'uncharted territory'. Several recent surveys have been launched by *Transparency International* in Mexico and India to build measurements of citizen perceptions of corruption at the regional level. However, in most countries, in particular those in the Europe, such data do not exist and those that do are more narrowly focused on capturing corruption, mostly in Italy (Del Monte and Papagni 2007; Golden and Picci 2005). However, in a recent study funded by the European Commission for regional Development (REGIO), regional-level data was published based on a large survey of approximately 34,000 EU citizens. Based on this, Charron, Lapuente and Rothstein (2011) constructed a regional-level QoG index score for 172 NUTS 1 and NUTS 2 regions within 18 EU countries based on 16 survey questions on citizen perception of QoG in their area – the *European Quality of Government Index* (EQI).

In attempting to capture the most relevant sub-national variation in QoG possible, the authors of the data focused on three public services that are most often financed, administered or politically accounted for by sub-national authorities, either at regional, county or local level: education, health care and law enforcement.[10] They asked respondents to rate these three public services with respect to three related concepts of QoG based on their perceptions and experiences – the *quality*, the *impartiality* and the level of *corruption* of said services. While the authors provide the amalgamated index based on all 16 questions, they provide in addition the results of each survey question for all 172 regions.

In this part of the analysis, using this novel data, we employ two dependent variables. First, we test the effects of regional size on the overall EQI in general. Second, we take the results of the three questions regarding only the respondents' responses to the 'quality' of their regional public sector[11]. On a scale of '0-10' (e.g.

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[10] The authors inquired the respondents' recent contact with these three public services and found that a 60% and 78% had personal contact with education and health services respectively in the past 12 months, while about 25% of the total respondents had direct contact with law enforcement. The complete survey as well as the number of respondents per country and respondent experience with the three public services in question can be found in the appendix. In total, each region had roughly 200 citizen respondents.

[11] The results of each question were standardized (with a EU sample mean of '0',and standard deviation of '1')

'extremely poor' to 'excellent'), respondents were asked the following questions from the EQI data:

> 1. 'How would you rate the quality of public education in your area?'
> 2. 'How would you rate the quality of the public health care system in your area?'
> 3. 'How would you rate the quality of the police force in your area?'

The mean responses of three questions are aggregated to the regional level and combined using equal weighting into one measure[12] (QUALITY).

Independent Variables

The key independent variables in question relate to the size of each region. To best capture size, we can draw from variations of two different measures, as in the previous analysis: the logged population, and the he size of a region in terms of area (squared kilometres, also logged). The first measure is an average from 2007-2009 and the latter is from 2008. Both measures were taken from Eurostat and are available for all regions in the sample. Although one has to be cautious in interpreting what each dimension of size substantially mean in the light of the theoretical argument sketched before, it could be argued that population captures better the gains from a cheaper provision of public goods (and should be thus expected to lead to better evaluations of public policy), while area proxies better for the heterogeneity of preferences in the region (and should be thus expected to lead to worse evaluations).

We control for a number of variables. First, Charron et al (2012) provide empirical evidence that economic development and QoG measures are highly correlated at both the national and regional level in EU, thus we control for two different commonly used measures of 'development'. The first is GDP per capita (PPP in Euros, logged) and the second is the Human Development Index (HDI). Next, we control for whether a region includes the country's capital city or not (0/1). Third, we control for the overall level of 'social trust in a region, as measured by Tabellini (2010), which is taken from the World Value survey. We expect that social trust and both measures of development will

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[12] It should be noted that the correlation between the factor weighted measure and the combined measure using equal weighting is 0.92, thus differences in the results are negligible.

be positively correlated with the dependent variables, while Charron et al (2012) provide evidence that citizens tend to rate capital regions lower in terms of QoG on average, thus we expect this variable to be negatively associated with the dependent variables. Finally, we control for specific country-level effects that are unobserved in the model via country-fixed effects (e.g. country dummies).

Sample

Our level of analysis is the NUTS 1 or NUTS 2 region in the European Union[13]. Based on the Schengen area agreement and the vast opportunities for both capital and labour mobility across the EU, we find the regional level among these countries to be highly relevant and an appropriate group to apply our tests. One caveat to take into consideration with respect to the sample however is the aspect of administrative relevance, which is critical to our theory: that the area in question is more or less politically (or at least administratively) responsible for the policy areas on which citizen opinions of quality services are based. In several of the countries – in particular, those that are federal or semi-federal – the political and administrative relevance is of course obvious. Germany, Austria, Belgium, Spain and Italy all have provinces in which the regional parliaments are elected by the citizens of that area and have a good deal of policy control over a wide scope of public policy, thus all regions from these countries are included in the sample. For politically centralized countries, we then ask whether the regional level available in the country is 'politically or administratively relevant' – e.g. does the region have elections or is this the primary sub-national administrative level of governance in the country in question to which the central government allocates administrative authority over policy areas like health care, education or law enforcement?

We find that in two countries (Poland and Denmark) all regions available have both political and administrative relevance, and one (France) the regional level is administratively relevant in several policy areas, in particular education, in addition to having regional elections. Furthermore, in the case of several other regions (Wales,

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[13] *Nomenclature of Territorial Units for Statistics'* (NUTS) are three levels of statistical regions established by the EU. IN the Charron, Lapuente and Dykstra data, countries available at the NUTS 1 level are from Germany, U.K., Sweden, Hungary, Greece, Netherlands and Belgium. NUTS 2 countries are Italy, Spain, Portugal, Denmark, Czech Republic, Poland, Romania, Bulgaria, Slovakia, France, and Austria.

Scotland and Northern Ireland in the U.K.) such regions are politically and administratively relevant yet other regions in this country available in the data are not, thus all other UK regions are dropped. Other countries in the data, such as Romania, Sweden, Portugal or Bulgaria either have no region that is relevant enough to include or have data available that does not match the most relevant sub-national level in that country and are thus not included here. In total, we include 117 regions from nine different EU countries. The sample is summarized in Table 4.

Table 4: Summary of the European Regional Sample

Countries with all regions included
Germany (16)
Austria (9)
Spain (16)
Belgium (3)
Poland (16)
Italy (21)
Denmark (5)
France (26)

Countries with some regions included
United Kingdom (3)

note: number of regions in parentheses.

Results

OLS results are presented in Table 5. We begin by employing a parsimonious specification in model 1, without country fixed-effects. We first test the impact of size, along with PPP per capita (logged), controlling for capital regions. We find that when testing the effects of size in a EU-wide sample, neither population nor area significantly explains variation in the EQI. Yet we see that the impact of both variables is significant at the 95% level of confidence in model 2 when controlling for country fixed-effects. This is a rather intuitive result however; as both higher-QoG countries (like Denmark or Austria) and lower-QoG countries (like Poland or Italy) have relatively large/populous regions as well as more rural or smaller ones, thus 'cancelling each other out' if fixed

effects are not controlled for. Therefore when we focus on the differences in regional size within states with fixed-effects, we find two fairly consistent and robust relationships. First, in all models 2-5 we find that population (logged) is negatively associated with the EQI or perception of public service quality (in model 5). However, on the other hand, regions that are larger in area tend, on average, to have a higher EQI or Quality score, even when controlling for development, capital region and social trust. We find that in all five models, our indicator of regional development (PPP or HDI) is strongly correlated with the dependent variables, while capital regions are always negatively associated with the EQI or Quality, yet only statistically significant in models 3 and 5. Interestingly, 'social trust' – which obviously reduces the sample size substantially, is not significantly related to the EQI, while both measures of size as well as PPP per capita (logged) are strongly significant in model 4.

All models, in particular those with country dummy variables, explain a high degree of variation in the dependent variables according to the R^2 (between 74% and 84% of the total variation). Finally, it should be noted that when testing the effects of HDI or social trust on the Quality dependent variable, the results follow the same pattern as models 3 and 4.

What do these results indicate in relation to the theoretical expectations outlined before? According to the standard account, it seems puzzling that, given that size has no effect on the quality of political representation –the main channel through which size has been argued to be harmful for democratic governance-, large polities (in terms of area) do tend to have publics with worse evaluations of public policies. These results are in line with some previous studies (Mouritzen 1989) and, more importantly, with the alternative hypothesis, namely that a large and heterogeneous polity (arguably better captured by land size rather than population) produces more divisive publics, which in turn has deleterious consequences for the provision of public policies. On the other hand, the results for population are more in line with the standard account. In more populated polities, public evaluations of public policies are significantly better, perhaps as a result of governments seizing the gains from size described before.

Table 5. Polity Size and Quality Public of Institutions at the Regional Level

	1. EQI	2. EQI	3. EQI	4. EQI	5. Quality
Population (log)	-3.11	-4.49**	-4.95**	-7.47***	-0.21**
	(0.12)	(0.03)	(0.01)	(0.002)	(0.04)
Area (log)	2.25	3.14**	1.71	5.66***	0.13**
	(0.17)	(0.04)	(0.14)	(0.009)	(0.05)
Capital Region	-7.12	-7.25	-6.99**	-15.23**	-0.50**
	(0.34)	(0.15)	(0.04)	(0.02)	(0.02)
PPP p.c. (log)	26.03**	26.82***		36.36***	1.42***
	(0.000)	(0.000)		(0.000)	(0.000)
HDI			0.77***		
			(0.000)		
Social Trust				0.19	
				(0.43)	
Austria		10.43*	9.05**		0.80**
		(0.08)	(0.03)		(0.02)
Belgium		-2.81	-4.39	1.73	1.42
		(0.73)	(0.52)	(0.80)	(0.14)
Denmark		14.95***	20.63***		1.63***
		(0.001)	(0.000)		(0.000)
Germany		16.23***	12.40***	11.12**	0.78***
		(0.000)	(0.000)	(0.03)	(0.000)
France		0.72	0.02		0.76***
		(0.78)	(0.98)		(0.18)
Italy		-21.60***	-16.35***	-21.76***	1.08***
		(0.000)	(0.000)	(0.000)	(0.000)
Poland		5.90	-1.24		1.55***
		(0.43)	(0.83)		(0.000)
U.K.		14.39***	8.12**	11.77**	1.79***
		(0.000)	(0.04)	(0.002)	(0.000)
Constant	-171.25***	-168.94***	74.04***	-18.18***	-13.18***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rsq.	0.41	0.82	0.84	0.81	0.74
N	116	116	112	54	116
Countries	9	9	9	5	9

note: OLS regression with robust standard errors (p-values in parentheses).
Dependent variable in models 1-4 is the EQI (0 ~100) and 'Elections' in model 5 (-2.47 ~ 2.27)
In models 2-5, controlling for country fixed effects, Spain is the comparison group. In model 4, the sample size is reduced because 'Social Trust' is only available for region in 5 countries – UK, Spain, Italy, Germany and Belgium.

*** p<0.01, **p<0.05, * p<0.10

5. Conclusions

This paper has explored how differences in the size of the polity affects citizens perceptions of political representation and the quality of services provided by their governments. To address this question, we have used two different sources of data: first, we explore individual-level variation in perceptions of political representation living in polities of different size. We find that, contrary to conventional wisdom, citizens living in large polities do not hold worse views on average about the way in which political representation works in their country. However, we do find that perceptions about political representation are more divided in large polities than in small ones. Everywhere, those who are ideologically close the government tend to express very good positive views about political representation, while those that are distant from it are more skeptic towards the ability of the system to represent their views. But the difference in perceptions between these two groups is markedly larger in large polities. Put differently, large polities have more divisive publics.

The second dataset explores differences in perceptions of the provision of public services across a very large cross-section of comparable political units of different size: 125 European regions. If, as the previous results indicate, size does not have consequences on the overall perception of political representation, one should expect size to have unambiguously positive effects on the quality of services, provided that governments in large polities exploit the advantages of size in the provision of public services. However, we find the opposite. In large polities (in terms of land area), publics evaluate worse the public services that they receive. We can only speculate here, but one possible cause of this result is the fact that the divisiveness in terms of representation associated with size makes it effective policy-making more difficult.

Overall, these findings indicate that the effects of size on political representation and quality of government might be slightly different from what the standard literature suggests. The evidence in support of the idea that people in large polities become more alienated from the political process, or that the provision of public goods is improved as the size of the political unit increases is very weak. However, size might have one big political consequence: it provides incentives to politicians to behave differently. In large polities, faced with a greater heterogeneity of preferences, policy-makers are more eager

to target policies to please the demands of particular groups, and less so to provide universal public goods. Our two main empirical results are consistent with this simple conjecture. First, in large polities people's views about representation are significantly more driven by how well the political systems treats them particularly. And second, people in small polities tend to evaluate better the provision of public services. Further research, both theoretical and empirical, will be needed to shed more light on the validity and limitations of this hypothesis.

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Appendix 1: description of Sub-National survey and data construction

The EU regional survey was undertaken between 15, December, 2009 and 1 February, 2010 by *Efficience 3*, a French market-research, survey company. The respondents, ranging from 18 years of age or older, were contacted randomly via telephone in the local language by the 'birthday method' with replacement. As Longstreth, and Shields (2009) find, although not as demographically representative as the 'quota method', the birthday method obtains a reasonably representative sample of the population while providing a better distribution of opinion.

   In trying to capture any regional variation within a country, we asked 34 QoG and demographic based questions to the approximately 200 respondents per NUTS region. Regarding the QoG questions, the respondents were asked about three general public services in their regions – education, health care and law enforcement. Publically administered areas such as immigration, customs or national security were intentionally avoided because these are dealt with at the national or even supranational level. In focusing on these three services, we asked respondents to rate their public services with respect to three related concepts of QoG – the *quality*, *impartiality* and level of *corruption* of said services [14]. In addition we included two further questions in the index – one about the fairness of regional elections and the other about the strength and effectiveness of the media in the region to expose corruption.

   In constructing the regional level data, we followed the advice of the "*Handbook on Constructing Composite Indicators*" (2008) from the OECD and JRC. After many internal consistency checks and tests at both the individual and aggregate regional levels, we ran correlations and factor analysis and determined 16 of the survey questions on QoG would be used to build the regional QoG index. For the sake of simplicity and easier replication, we first standardize each question[15] and aggregated the individual-level responses to the regional level, taking the simple mean. To combine the 16 questions into one index for each region, we used equal weighting and arithmetic aggregation. We standardize the data so that the mean is '0' with a standard deviation of '1'.

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[14] These are related concepts which have come up frequently in the comparative QoG literature, thus we try to include citizens' opinion regarding all three, for more, see Holmberg, Rothstein and Nasturosi (2009).

[15] Questions are standardized due variations in the range of response (i.e. '0-10', '0-4', 'yes/no', etc.)

Survey Questions Incorporated in the Regional QoG Index

Rule of Law-Focused Questions

"How would you rate the quality of the police force in your area?" (low/high, 0-10)

"The police force gives special advantages to certain people in my area." (agree/disagree, 0-10)

"All citizens are treated equally by the police force in my area" (Agree, rather agree, rather disagree or Disagree, 1-4)

"Corruption is prevalent in the police force in my area" (agree/disagree, 0-10)

Government Effectiveness-focused questions

"How would you rate the quality of public education in your area?" (low/high 0-10)

"How would you rate the quality of the public health care system in your area?" (low/high 0-10)

"Certain people are given special advantages in the public education system in my area (agree/disagree, 0-10)

"Certain people are given special advantages in the public health care system in my area." (agree/disagree, 0-10)

"All citizens are treated equally in the public education system in my area" ." (Agree, rather agree, rather disagree or Disagree, 1-4)

"All citizens are treated equally in the public health care system in my area" ." (Agree, rather agree, rather disagree or Disagree, 1-4)

Voice & Accountability-focused questions

"In your opinion, if corruption by a public employee or politician were to occur in your area,
how likely is it that such corruption would be exposed by the local mass media?" *(unlikely/likely, 0-10)*

"Please respond to the following: Elections in my area are honest and clean from corruption" (agree/disagree, 0-10)

Corruption-Focused Questions

"Corruption is prevalent in my area's local public school system (agree/disagree, 0-10)

"Corruption is prevalent in the public health care system in my area" (agree/disagree, 0-10)

"In the past 12 months have you or anyone living in your household paid a bribe in any form to:

Health or medical services?" (yes/no)

"In your opinion, how often do you think other citizens in your area use bribery to obtain public services?" (never/very often, 0-10)