

Regional Governance Matters: Quality of Government within European Union Member States**

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Abstract

This article presents novel data on the ‘quality of government’ (QoG) – understood as low corruption, impartial rule of law, government effectiveness and accountability – for both national and regional levels in the 27 EU countries. First, the article assesses the existing national level data on QoG for EU countries, pointing out the four clusters of states that are statistically significant from each other. Second, original sub-national-level data is presented for 172 EU regions based on a survey of 34,000 residents across 18 countries. The two measures are then combined into the *European QoG Index* (EQI), which shows notable within-country variations: while high-performing regions in Italy and Spain (e.g. Bolzano, Pais Vasco) rank amongst the best EU regions, others regions in the same countries perform well below the EU average. The study uses the new EQI to test five hypotheses on why some polities have more QoG than others. The EQI is highly correlated with regional indicators of socio-economic development and levels of social trust, yet we find mixed evidence regarding population or area size. Finally, the data also indicates that political decentralization is not empirically linked with greater variation in QoG within the country or higher levels of overall QoG.

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¹ This article represents solely the views of its author and cannot in any circumstances be regarded as the official position of the Commission.

Introduction:

The principal aim of this study is descriptive in nature - to present newly created data on “quality of government” (QoG) for 27 EU countries and 172 sub-national regions, primarily taken from the largest multi-country, sub-national level survey on QoG to date. In the first and primary part of this article, we provide a detailed account of the construction of the data, the robustness checks and show the final results, along with providing the data for all countries and regions in the appendix, free for scholarly use². Overall, the data show that even in a highly developed area such as Europe, significant QoG variation exists between and within countries – not only between new and old member states but even among the original six countries.

The secondary aim of the study is to use the newly created data to test several hypotheses on relationship between QoG and numerous commonly tested national-level correlates. While the empirical section is admittedly modest, we emphasize such tests at the sub-national level were not possible before the creation of this data and the data presented here is to encourage future QoG research at the sub-national level (see for example Charron and Lapuente, *forthcoming*). Overall we believe that the data provided here significantly contributes to our understanding of the surprisingly vast amount of QoG variation across and within EU countries and provides a valuable tool for researchers who are interested in moving past national comparisons to more detailed, regional-level studies within the European Union.

Why study quality of government in Europe?

During the latest two decades, numerous studies have indicated that “quality of government” (QoG) is a major determinant of many variables associated with the well-

² All data used in this article may be freely accessed at: <http://www.qog.pol.gu.se/data/>

being of individuals within a country. This literature emphasizes the importance of *how* a government delivers its policies, instead of *what* a government delivers – that is, the size or “quantity” of government. And, in particular, the focus is on the extent to which a government delivers its policies – irrespective of their nature and degree or provision – in an *effective* and *impartial* way and *without corruption*. Evidence of such attention in the way a government performs its tasks can be found not only in the rise of academic publications with a focus on this topic along with the interest from international organizations (IO’s) such as the World Bank and the United Nations, which have increasingly underlined the value of good governance and sound institutions from a development perspective (Holmberg, Rothstein and Nasiritousi 2009).

This has in turn given rise to a recent surge in new data creation, quantifying aspects of QoG, and, in particular, its most measurable components (even if the measures are most often subjective or perception-based), such as the lack/control of corruption, the strength of the rule of law and bureaucratic quality or ‘government effectiveness’. There is such a high correlation amongst these cross-country indicators that comparative scholars have coined the term “quality of government” to encapsulate the concept of a government that it is impartial, efficient and non-corrupt (Rothstein and Teorell 2008). Countries with high QoG score higher in almost all dimensions related to the welfare of their citizens (Holmberg, Rothstein and Nasiritousi 2009). QoG has been found – in an extensive and growing literature –to lead to outcomes such as better economic performance (Knack and Keefer 1995, Mauro 1995, Mo 2001), higher environmental sustainability (Morse 2006, Welsch 2004), lower income inequality and poverty (Gupta, Davoodi, and Alonso-Terme 1998), better education and health outcomes (Mauro 1998),

higher levels of subjective happiness (Frey and Stutzer 2000), and lower probabilities of civil armed conflict (Öberg and Melander 2005).

Despite the importance of these findings, empirical measures within this sub-field are still relatively underdeveloped. One of the major shortcomings is that most data and research related to QoG has focused exclusively on the national level, with a particular focus on developing countries. The two implicit assumptions in the extant research efforts to gather data on QoG have thus been that national differences matter more than sub-national ones and that, across similar Western democracies, the differences in QoG are fairly minor. This study challenges both assumptions. First, we focus exclusively on the 27 Member States of the European Union, arguably all moderately to highly developed countries, yet, at the same time, these countries present noticeable – and statistically significant – differences in QoG.³ Second, this study gathers data on both national and sub-national differences, uncovering how the latter tend to trump the former quite frequently – e.g. we find the gap between Italy's Bolzano region, which ranks near the top of all EU regions, and Campania which is among the lowest, is wider than the gap between the countries of Denmark and Hungary for example.

The main findings of the study are the following. First, we find that there is significant variation in QoG across mainly four main cluster groups of states: the top performers are mostly from the Scandinavian, Germanic and English speaking countries; a second group would largely be formed by Mediterranean countries together with Estonia and Slovenia; and the third group would consist of most New Member States

³ In this sense, this article follows the growing body of recommendations by the European Commission regarding the importance of investing in QoG across many EU member states. Regarding the strategies to overcome the economic-financial crisis, it has recently argued that “strengthening institutional and administrative capacity can underpin structural adjustments and foster growth and jobs - and in turn significantly improve the quality of public expenditure.” (European Commission 2010a).

plus, notably, Italy and Greece and a fourth group made of the two newest member states – Romania and Bulgaria. We find however that in several countries, that QoG national level data offers a highly distorted picture due to the presence of significant sub-national variations in QoG - overestimating low performing regions, while underestimating higher performing ones. Previous literature has pointed in that direction. For example, differences between Northern and Southern Italy are widely known thanks to several influential works (e.g. Putnam 1993), and the divergences between Flanders and Wallonia in Belgium as well as the provinces in Spain are often discussed. Yet such regional differences in QoG in Belgium and Spain - and most others in the EU - have not been quantified throughout the EU in a systematic way. The most encompassing empirical studies of European regional differences (e.g. Tabellini 2005) have mostly relied on a rather indirect measure - levels of GDP per capita as proxies of the level of QoG in a region. Thus despite its cross-sectional nature given that this is the first time this information on QoG is gathered, the data presented in this study is thus a pioneering effort to corroborate for the first time within-country QoG variations in most European countries simultaneously.

In addition, five basic hypotheses are tested using the newly created European Quality of Government Index (*EQI*), essentially seeking to test whether national level findings hold at the regional level. First, we hypothesize that the *EQI* will be strongly correlated with measures of economic and social development – such as GDP per capita, health measures and levels of education (H1). It is important to bear in mind that, as the previous literature has noted, the causality can work in both directions thanks to feedback effects: that is, QoG may be both cause and consequence of these socio-economic

variables. Next, we test whether the size of a region – be it population or area size - has any association with QoG levels (H2). Third, based on numerous national level studies, we hypothesize that social trust will be positively related with the EQ (H3). Finally, we hypothesize that various types of political decentralization – in the form of federalism or regional administrative authority – will be associated with greater degrees of disparity of QoG among regions within a country (H4) or systematically linked with country-levels of QoG (H5). Similar to the empirical literature with a national level focus, we find strong evidence for H1 and H3 at the regional level in the EU. As regards H2, we find some empirical evidence that population and area size are related to QoG within countries, yet not EU wide. Finally, contrary to the extensive literature on decentralization and QoG, we find no evidence for H4 or H5.

The remainder of the article is structured as follows. First, we begin the measurement of QoG within the EU with a national-level assessment, using existing data from World Bank's Governance Indicators (Kaufmann, Kraay and Mastruzzi 2009). Next, we describe the regional level survey undertaken in 172 EU regions from the largest 18 member states. Subsequently, we combine national and regional QoG data into the full index (e.g. the *EQI*) for the entire EU. Next, we test the hypotheses discussed above with the *EQI*. We conclude with several suggestions of important empirical puzzles that could be addressed in the future using this new data.

Measuring QoG at the National Level in Europe

According to the existing contemporary, national-level data, QoG, or 'good governance' is on average higher for EU countries as compared with other world regions. This in and

of itself is not surprising, but a closer look however, reveals that there is significant variation among many of the countries in the EU, which we discuss in this section.

As noted, a proliferation of QoG-type data has emerged since the mid-1990's, measuring such concepts as corruption, rule of law and others at the national level. Many of the indicators cover most or all of EU countries, such as Transparency International's 'Corruption Perception Index (CPI), the International Country Risk Guide (ICRG) or the World Economic Forum's business leader survey on corruption and bureaucratic effectiveness to name a few. After reviewing all available QoG indicators covering EU countries, we find that the World Bank's 'World Governance Indicators' (WGI) (Kaufmann, Kraay and Mastruzzi 2009) data is the most suitable source on which to compare and assess QoG for EU countries. First, as opposed to only focusing on one particular concept of QoG, such as corruption, it covers four main, inter-related 'pillars' of QoG that we find to be highly salient:

1. *Control of Corruption*
2. *Rule of Law*
3. *Government Effectiveness*
4. *Voice & Accountability*

Second, the WGI covers all EU countries for at least 12 years, going back to the mid 1990's, and is now published annually. Third, it is a 'composite index' and it is transparent in the way that it is constructed – publishing freely all underlying data on which it is built, along with a relatively clear description of the conceptual meaning of each concept and the methodology used to create each variable. Fourth, the theoretical scope of each QoG concept is wide rather than narrow. We believe that unless specified, all aspects of corruption, rule of law, etc. should be included rather than focusing on

narrow aspects alone. This allows for more information to be included, which is good for reliability checks of the data for example⁴.

As far as the underlying data indicators are concerned for each pillar, the number of sources vary from country to country in the dataset covering all countries in the world (some small island states have only one source for example for a given pillar while some states have more than 15). However, the advantage of the EU sample is that there are at least 9 common sources for each individual data indicator of QoG for the WGI, and in the case of Rule of Law (RL), there are at least 12 for all countries, making for much more reliable comparison than countries with only a few (or less) sources in common⁵. The sources of the underlying data are mainly from ‘risk assessment’ institutes or ‘expert’ surveys, yet they do also contain NGO assessments such as *Reporters Sans Frontiers* and *Freedom House*, along with data from government agencies and citizen-based survey data, such as *Gallop World Poll*⁶, reducing the likelihood that a country’s score was driven by one source or, moreover, that a country’s score was exclusively influenced by business interests⁷

We ranked the 27 EU countries according to each of the 4 ‘pillars’ of QoG listed above⁸. However, we were uncertain about the robustness of the data. Thus we took all data used to construct these four QoG indices for the year 2008, replicated the original results, and conducted extensive sensitivity tests and internal/external consistency checks on each of the four areas of QoG. After running a total of 264 alternative simulations,

⁴ There is of course no ‘perfect’ measure of QoG and we fully acknowledge that the WGI data is not without its share of critics: see Politt 2008, Kurtz and Schrank 2007, and Thomas 2010 for example.

⁵ The exception here is Cyprus, Luxembourg and Malta, for which some sources were missing.

⁶ For a full description of the WGI composite indicators, their construction and underlying data, see Kaufmann, Kraay and Mastruzzi (2009).

⁷ For a more in depth debate on this topic, see Kurtz and Shrank (2007) and Kaufmann et al (2007).

⁸ All underlying data for the WGI, along with the weighting schemes use by KKM, are available freely online: <http://info.worldbank.org/governance/wgi/index.asp>

whereby we altered the original weighting scheme, aggregation method and removing individual data sources one at a time, we found the data and country ranking of each pillar to be remarkably robust to changes, along with being strongly internally consistent⁹. After confirming the robustness of the original estimates for each of the 4 composite indices, we then combined the 4 indices to create, national-level ‘QoG index’¹⁰. The results of which can be seen in Table 1.

According to the WGI’s own margins of error, the QoG estimates between countries like Denmark and Finland, or Czech Republic and Hungary are indistinguishable. Thus, we use hierarchical cluster analysis to assess the national level variance in QoG across EU countries, using Ward’s method and squared Euclidian distancing for the four pillars of QoG to identify the number of appropriate cluster groupings, which serve as a helpful tool to identify EU member states that share common challenges to building QoG at the national level. Although distinguishing the number of groups in this type of analysis can be arbitrary at times, we found the most appropriate alignment was to distinguish between four groups in the analysis. We then used k-means clustering with squared Euclidian distancing to assign each country to a cluster group. The results show mainly that with some exceptions, there are noticeable geographic and historic similarities to the countries within each group.

****Table 1 about here****

Without claiming that these groups are ‘set in stone’ so to speak, the data tell us that cluster 1 countries exhibit the highest levels of QoG in Europe, while cluster 2 and cluster

⁹ For a more in depth look at the results of the sensitivity test, please see Charron (2010) ‘Assessing The Quality of the Quality of Government Data: A Sensitivity Test of the World Bank Government Indicators.’’ http://www.qog.pol.gu.se/digitalAssets/1357/1357980_paper-on-sensitivity-tests-of-world-bank-data.pdf .

¹⁰ For the sake of parsimony, we use equal weighting, yet test the sensitivity of this aggregation method by using factor weights. The Spearman Rank Coefficient was over 0.99.

3 show, respectively, a moderate and moderate-low performance in QoG and cluster 4 on the lowest end comparatively¹¹. According to this picture based on aggregate national data, there thus seems to be four Europes with respect to QoG: a first one with top performers mostly from Scandinavian, Germanic and Anglo-Saxon countries. A second one consists mostly of Mediterranean countries plus the two best performers in Central-Eastern Europe (Estonia and Slovenia). The third group consists mostly of post-communist EU members and, significantly, two Western European countries Italy and Greece. The fourth group is the two most recent member states – Bulgaria and Romania, which on average show the lowest levels of QoG in each of the four pillars. To put this variation into a more global context, we compare the groups of EU states with countries outside the EU with equivalent WGI scores. We find that according to the WGI, Denmark, Sweden and Finland are on par with the highest performing countries in the world such as Canada, New Zealand and Singapore. The average country in group 2, which includes countries like Portugal and Slovenia, has a WGI score similar that of South Korea, Israel and Qatar. The average country in the third group, which includes countries like Latvia and Greece, has similar QoG levels as Botswana, Costa Rica, Uruguay or Kuwait. The two countries in the lowest group - Bulgaria and Romania – are ranked on par with countries such as Colombia, Panama, India and Ghana. Thus while the EU states score in the top 50th percentile globally, these global comparisons indeed

¹¹ It is worth noting several alternative cluster groupings. For example, if we had chosen just two groups, then countries from Cyprus and above in Figure 1 would belong to group 1 and from Estonia and below would belong to group 2. Three groups would remain the same, except that Romania and Bulgaria would join group 3. The next division would have been six groups, whereby group 1 and group 2 in Figure 1 would be subdivided – Luxembourg through Denmark would be group 1, whereas Austria, UK, Ireland and Germany would be an independent cluster group, and France, Belgium and Malta would form a group and the remaining four countries (Spain- Slovenia) would make up group a separate group.

show evidence of significant variation at the country-level, which merits further investigation.

Measuring QoG at the Regional Level in Europe

While certainly relevant as a starting point, the national level cluster groups do not tell the whole story. National-level data has of course proliferated in recent years, yet measuring QoG at the regional level within most individual countries is still ‘uncharted territory’, let alone measuring regional QoG in a multi-country context. Several recent surveys have been launched by *Transparency International* in Mexico and India to build measurements 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 alone, mostly in Italy (see for example Del Monte and Papagni 2007; Golden and Picci 2005).

To add to the necessary nuance to the national level WGI data, we take advantage of data acquired for a large, European Commission-funded project on measuring quality of government within the EU¹². We began with a survey of approximately 34,000 EU citizens, which constitutes the largest survey ever undertaken to measure QoG at the sub-national level to date. A regional-level QoG index score for 172 NUTS 1 and NUTS 2 regions within 18 EU countries was built based on survey questions on citizen perception of QoG¹³. As a compliment to national level QoG data, our citizen-based data offers a source of information that is not subject to the common criticism that QoG data is biased

¹² Charron, Nicholas, Victor Lapuente and Bo Rothstein. 2011. ‘Measuring Quality of Government and Sub-national Variation’ Report for the EU Commission of Regional Development *European Commission Directorate-General Regional Policy Directorate Policy Development*.

¹³ ‘Nomenclature of Territorial Units for Statistics’ (NUTS) 1 regions 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. NUTS levels for each country were selected by the EU Commission prior to the survey.

toward ‘business friendly’ environments (see Kurtz and Shrank 2007). A more detailed description of the survey is located in the appendix.

To capture the most relevant sub-national variation in QoG possible, we focused on three public services that are often financed, administered or politically accounted for by sub-national authorities, either at regional, county or local level: education, health care and law enforcement.¹⁴ Respondents were asked to rate these three public services with respect to three related concepts of QoG based on their own experiences as well as perceptions – the *quality*, the *impartiality* and the level of *corruption* of said services.

It can be argued that the administrative and political responsibility of the regions in these three public services varies in different countries and thus this may be problematic for this data gathering. However we argue otherwise. We seek to capture all regional variation within a country and, as noted in the literature (e.g. Tabellini 2005), numerous empirical indications and much anecdotal evidence suggest that the *provision* and quality of public services controlled by a powerful central government can nonetheless vary substantially across regions.

Furthermore, regions have become more salient in the EU in terms of expenditure and authority. Public expenditure managed by regional authorities in the EU has grown substantially from 18% of total public expenditure in 1995 to 32% in 2008 (European Commission 2010b). In addition, a recent study (Hooghe et al, 2010) shows how over the last 40 years, the political and fiscal authority of regions in Europe has grown. Lastly, a large share of EU Cohesion Policy funds is managed by the regions themselves.

¹⁴ We 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.

Therefore, regions are becoming more important actors and in the cases where they are currently merely statistical units¹⁵ they are likely to become more relevant in the future.

The regional data itself combines 16 survey questions about QoG at the regional level. To construct the regional index, we follow carefully the guidelines expressed in the OECD's *Handbook on Constructing Composite Indicators* (Nardo et al, 2008). Although we thoroughly check the robustness of the results, testing alternative methods to building the data, we construct the index as follows. First, all 16 QoG questions are aggregated from the individual to the regional level as a mean score. Next, the 16 regional scores are standardized, so as to have a common range via standardization¹⁶. Then, we performed a factor analysis to see if the 16 questions form significant sub-groups in the data. We found three relevant groups, which we label 'pillars' – questions pertaining to *impartiality*, *corruption* and *quality* all constituted separate factor components (media and election questions aligned with the 'quality' pillar)¹⁷. Each variable is given equal weight within each pillar. Finally, the three pillars were combined using equal weighting to form the regional index.

We find that the results of the aggregation of the regional data reveal fairly predictable patterns among the regions with respect to QoG. All regions within the top performing EU members with regard to the national QoG index (Denmark, Sweden and Netherlands) are in the top 15% of all 172 regions. Among the new Member States, all

¹⁵ For example, in the recent 2007 Danish Municipal Reform, Denmark's former 16 counties were replaced with the five NUTS 2 regions, all now having elected regional governments with near exclusive political and administrative power over the health care system, along with transportation and other local policy areas. A similar type of reform was made in Poland in 1999, as the elected sub-regions were drawn around the Commission's NUTS 2 level regions in preparation for EU membership. For more information on Denmark's reform, see: <http://www.regioner.dk/>, for more on Poland's reform see: Ferry (2003).

¹⁶ For example, some questions range from 0-10, others 0-3 and others are dichotomous. To combine two or more indicators into a composite index, the data must be adjusted to have a common range.

¹⁷ To determine the number of factor groupings, we followed the Kaiser criteria – whereby a significant group must have an Eigenvalue greater than '1' and the sum total of all significant factors must equal 60% or greater of the total variation.

but one of the regions are in the bottom 50% (i.e. have a score lower than '0'), with the only exceptions being Nord Vest (RO11) in Romania. In contrast, most of the EU 15 regions are in the top 50%, with Portugal and Greece being the only exceptions having all of their respective regions under the mean. Moreover several of the regions in France and Italy are under the EU mean, with the later containing two in the bottom 10% of the sample¹⁸.

As with the national-level data, we perform internal consistency checks and a rigorous sensitivity test to the regional data. To test internal consistency of the 16 indicators, we used Chronbach's Alpha correlation test, pairwise correlations and a principle component factor analysis¹⁹. We then performed 62 alternative simulations in which the sensitivity of the data was tested. First, the robustness of the equal weighting scheme was checked using factor weights instead. Second, we substituted the additive method of aggregation with geometric aggregation, and normalized the data via 'min-max' method in place of standardization. Third, we removed each individual question one at a time as well as whole question-groups (e.g. all questions pertaining to 'quality', 'impartiality' or 'corruption'). Finally, for several simulations, we re-aggregated the data from the individual level whereby we excluded certain demographic groups, such as men, high income respondents, young respondents, higher educated respondents and those who did not have any interaction with any of the public services in question within the last 12 months. We found that even in the most extreme scenarios, the Spearman Rank Coefficient never fell below 0.90 and that the median shift in the rankings was never

¹⁸ Although we report only the finalized EQI data in the appendix of this article, the raw regional data can be accessed at: <http://www.qog.pol.gu.se/data/eu-project-2010/>

¹⁹ Chronbach's Alpha coefficient of reliability was 0.94, while 89% of the pairwise correlations among the 16 questions were positive and significant. The principle component analysis (PCA) demonstrated that the questions factored together according to QoG concepts of corruption, impartiality and quality.

above 11 as compared with the original index. The results of the sensitivity testing demonstrate that the regional data and scores are strongly robust and internally consistent²⁰.

Combining the Two Levels of Data - The European QoG Index (EQI)

Although the entire sample of respondents in the regional level survey is large (34,000), the number of respondents per region is on the smaller side (200). Further, we seek to add the country-context to each region's QoG score which we assume would also be influenced by such factors as the national legal system, immigration, trade and security areas that are not captured in the regional QoG data. Thus we add credible and robust observations to the regional level data to compensate for any outlying region or country in the regional survey (which could be the results of limited observations) while adding the 'national context' of QoG. To accomplish this – along with including the nine other smaller EU countries in the sample - we combine the WGI external assessment with our citizen-based, regional level data to create a comprehensive '*European QoG Index*' (EQI). Our aim was to come up with a method that includes the omitted EU countries from the survey while simultaneously maintaining the richness of the within-country variation in several of the countries surveyed in the regional-level study.

To calculate the score for each region and country, we take the country average from the WGI data from Table 1 and standardize it for the EU 27 sample. For countries

²⁰ As noted in the Handbook of Constructing Composite Indicator's, it is important to check the interaction effects of each of these adjustments, thus for example testing the removal of the 'corruption' pillar in all possible combinations of weighting, aggregation, and normalization of the data. For a more detailed account of the robustness checks, see (source excluded for anonymity)

outside of the regional survey, there is nothing to add to the WGI Country score, thus the WGI data is used as the QoG estimate alone²¹, because regional variation is unobserved.

For the 18 countries with regional data, we take the national average based on the WGI and add the within-country variance based on the regional-level data described in the previous sections. Simply speaking, we start by calculating a national, population-weighted average of the regional scores for each of the countries in the survey. We then subtract this national average score from each region's individual QoG score in the country, the result of which shows if a region is above or below its national average and by how much. This figure is then added to the national level WGI data, so each region has an adjusted score, nationally-centred on the WGI. The formula employed is the following:

$$EQI_{regionXin\emptysetuntryY} = WGI_{countryY} + (Rqog_{regionXin\emptysetuntryY} - CRqog_{countryY})$$

where 'EQI' is the final score from each region or country in the *EQI*, 'WGI' is the World Bank's national average for each country, 'Rqog' is each region's score from the regional survey and 'CRqog' is the country average in country 'Y' (weighted by regional population) of all regions within country 'Y' from the regional survey. In keeping with the same scale as the WGI data, the *EQI* is standardized so that the mean is '0' with a standard deviation of '1'. We also re-adjust the data to go from 0-100 and report both scales in the appendix for scholars and practitioners who prefer this range (EQI100).

Although the national level data and regional level data are indeed directed at different levels of government – the WGI taps into the quality of national public sector broadly speaking, while the regional survey was explicitly asking respondents about their

²¹ The score is slightly changed due to the re-standardization when the national and regional level estimates are combined so as to set the final EQI's mean to '0' and standard deviation to '1'.

regional services – we argue that these two measures are indeed similar enough to combine. First and most obviously, they both capture aspects of QoG such as corruption, quality of services, impartiality, and rule of law. While the national data might be focused on several sectors of the national bureaucracy that are not measured by the regional level data – e.g. defence, immigration, etc. – we do not find this problematic. While administrative and fiscal responsibilities vary from region to region in the EU, such areas of the public sector are out of the realm of all regional governments, thus it is most appropriate that we do not include them in any regional studies. Second, the WGI data are robust, well-established, and internationally used measures, and are thus suited to estimate the country-level scores. In adjusting the national level scores of the member states, we sacrifice none of the rich sub-national variation from the regional level survey data. Finally, in using the WGI as an ‘anchor’ so to speak, around which each country’s regional variation is explained, we can retroactively adjust data if in future rounds of regional data collection, when additional countries or regions are added²².

****Figure 1 about here****

Figure 1 shows the combined data between the WGI national-level QoG scores and the regional QoG data and Figure 2 shows the national averages with the within-country range of scores. A full list of scores for each region and country is located in the appendix in rank order. The data show that 11 of the EU-15 countries have all their regions and/or national scores above the EU average, while all regional and national-level scores for the New Member States (NMS) are under the EU-wide, mean average²³. Five

²² For example, round 2 of the EQI data, scheduled for 2013, will include countries such as Croatia and Turkey in addition to the 18 countries in this study.

²³ However, on specific combined pillars, such as RL or GE, several regions in the Czech Republic are above the EU mean score

EU-15 countries – Italy, Spain, France, Belgium and Portugal– contain regions that are both above and below the mean score, while Greece is the only EU-15 country to have all of its regions below the mean level of QoG in the EU. Among the NMS, the regional ranks are all below the EU mean, with the highest ranking region being Jihozápad (CZ03) from the Czech Republic (-0.05).

To facilitate reliable comparisons across regions, we construct a margin of error at the 95% confidence level. This level equates to the probability that a margin of error around the reported QoG estimate for each region would include the "true" value of QoG or, in other words, that the margin of error tells us that we can say with about 95% confidence that a region's estimate of QoG can be found within a plus/minus 1 margin of error²⁴. While not exactly a 'margin of error' in a traditional sense, the range expresses the uniformity around which respondents ranked their region's QoG in the 16 questions. Thus the regions that have the largest margins of error are ones in which respondents expressed a relatively large gap in the response between two or more sets of questions for a service or concept (such as education or 'impartiality' for example). For example, most respondents in Spanish regions believed their public services were among the most impartial in Europe, yet they ranked them below average on corruption questions for example, leading to wider margins of error than most other EU regions. The lowest margin of error belongs to the Polish region of Kujawsko-Pomorskie (0.166), meaning

²⁴ We know from basic statistical probability that in a sample 'x', 95% of the area of a basic normal Bell curve are between our estimate (μ) $1.96 \pm$ the standard error around μ . We calculate the standard error as:

$$S.E. = \frac{\sigma}{\sqrt{n}}$$

The margin of error for each individual region is based around the QoG estimate:

$1.96 \pm \left(\frac{\sigma}{\sqrt{n}} \right)$ with $N = 16$, because there are 16 indicators in the QoG index which have been aggregated from the survey data. Each region thus has their own individual margin of error based on the consistency of the estimates for each of the 16 aggregated questions in the survey. We end up with an average margin of error of 0.338, or about one third of a full standard deviation, with a minimum of 0.166 to a maximum of 0.705.

that respondents ranked their services in this region very consistently across all 16 questions. The result show that Danish and Polish regions on whole have the tightest confidence intervals, while Spanish, Romanian and Czech regions tend to have the widest margins. All margins of errors around the final EQI estimates are found in the appendix²⁵.

****Figure 2 about here****

In Figure 2 we show the within country regional variation of the EQI using a simple method of ‘min-max’ comparison²⁶. Interestingly, the data show that within-country QoG variation is at times equally or more important than cross-country variation. For example, Figure 2 shows the rank-order of EU countries (again, using the WGI, national assessment as the country mean). For example, the gap between Bolzano (ITD1) to Campania (ITF3) in the data is much larger than then the gap of the national averages between Denmark and Portugal, while the gap between Flanders (BE2) and Wallonia (BE3) is larger than the gap between Belgium as a whole and Hungary for example. Further, while the national gap between Bulgaria and Romania at the national level is negligible, their national scores are noticeably lower than the national scores of other states such as Slovakia, Poland, Italy and Greece. However, the top region from each country (Nord Vest (RO11) in Romania and Severoiztochen (BG33) in Bulgaria are statistically indistinguishable from average ranking regions within those other four countries. It is noteworthy to mention that the EQI can be employed in cross-sectional

²⁵ In addition to the standardized scale for the EQI, we also normalize the data to range from 0-100. We thank an anonymous reviewer at Regional Studies for this suggestion.

²⁶ Although min-max is sometimes overly simplistic and can overlook variation within the min and max regions, it is worth noting that when we compared this to other measures of within regional variation of QoG, such as a Gini index, the coefficient of variation and the Thiel index, we found that all measures correlate vary highly (a Spearman rank correlation of 0.85 or higher) with the measure of min-max shown in Figure 2.

analysis only at the regional level at this point, yet one can employ the WGI combined national-level index to make comparisons over time²⁷

Five Hypotheses on Why Some Regions Have Better Quality of Government

In this section, we seek to elucidate some general patterns of QoG variation within and across countries by testing five prevailing hypotheses in the literature using the newly constructed EQI. Following most of the empirical literature on QoG, this study does not aim to provide a unique causal direction – especially given the cross-sectional nature of the data – but only to show if a statistically meaningful relationship is present.

First, it has been argued and found in several empirical cross-national studies that indicators of QoG are highly correlated with proxies for socio-economic development, such as education attainment, income levels, technology or health. Scholars have consistently found a strong empirical connection between reaching a higher levels of economic development, and higher levels of various measures of QoG (Acemoglu, Johnson, and Robinson 2004; Knack and Keefer 1995; Mauro 1995; Holmberg, Rothstein and Nasiritousi 2009), as well as measures of macro-level indicators of health in society (Mauro 1998; Gupta, Davoodi, and Alonso-Terme 1998). Therefore we test the following hypothesis:

H1: Levels of socio-political development will be positively associated with the EQI in regions and countries across the EU²⁸.

Second, we test the relationship between several demographic variables and the EQI, such as the regional population, and size of the geographical area. Several studies have examined these factors – or equivalent ones – with, generally speaking, mixed results on

²⁷ The next round of data collection at the regional level is scheduled for 2013, thus making a limited over-time comparison possible by 2014.

²⁸ By ‘countries’ we mean the nine EU states outside of the regional survey, which covers the 18 largest EU members.

their importance to explain variation in QoG (Alesina and Spoloare 1997; Knack and Azfar 2003, Alesina 2003). The arguments and evidence are diverse regarding the size of a polity and its level of QoG. On the one hand, the argument that smaller populations are more manageable goes back to Ancient Greece. Aristotle wrote that “experience has also shown that it is difficult, if not impossible, for a populous state to be run by good laws” (quoted in Alesina 2003, 303). On its face, this seems a reasonable prediction, as relatively small Nordic countries, like Denmark, Sweden and Finland are all among the best performers in most QoG measures world-wide. On the other hand, Knack (2002) provides evidence that larger US states had higher-quality management practices, even when controlling for a number of socio-economic variables. However, Knack and Azfar (2003) find no relationship between size and corruption in a large cross-country sample. We thus have no clear direction to predict but, we test whether QoG and population or area size are systematically related within and across EU countries:

H2: QoG within and across countries in the EU is systematically related to the size of a region or country.

Third, based on several recent studies; we hypothesize that regions/countries with higher degrees of social trust will have higher scores in the EQI. It has been extensively argued that higher levels of generalized trust – i.e. trust in strangers or people who do not belong to “your group” – is a function of higher QoG (Rothstein and Uslaner 2005). Where “people have faith only in their in-group” – understanding by it either a family, a clan, an ethnic group or other social groupings such as a political party – a society, and thus its politics, is “seen as a zero-sum game between conflicting groups” (Rothstein and Uslaner 2005, 45-46). In these conditions, citizens feel less attached to their political communities than to a particular social group and thus less eager to contribute to the

provision of general public goods, such as paying taxes, respecting and protecting public spaces and, very importantly, engaging in social and political mobilizations asking for improvements in quality of government. Generally speaking, ‘free-riding’ becomes more frequent at all social levels. In turn, public authorities lack both adequate resources and incentives to deliver policies, consolidating a ‘vicious cycle’. We thus test the following hypothesis:

H3: QoG is positively associated with Social Trust within and across countries in the EU.

Finally, we test whether if there is an empirical link between the level of political decentralization and/or federalism and the *amount of within-country variation* in QoG as well as the *level* of QoG itself across countries. Although mostly untested empirically due to a lack of empirical data at the regional level, several scholars have asserted that greater levels of decentralization be associated with larger disparities from region to region with respect to variables such as bureaucratic quality or corruption in the public sector (Tanzi 2001). In other words, when regions gain more decision-making control, the stronger ones will perform better and weaker ones will sink even deeper, creating larger gaps within decentralized states than in centralized ones. Further, several studies have tested whether decentralization leads to higher or lower QoG across countries, with several arguing that political decentralization and/or federalism creates greater problems of collective action and more cumbersome decision-making rules (Gerring and Thacker 2004) while others such as Lijphart (1977) and Watts (1999) argue that greater vertical power sharing in the form of decentralization or federalism would lead to better QoG outcome. We thus test two hypotheses regarding the impact of decentralization over within-country variance and over levels of QoG:

H4: Greater levels of political decentralization will be associated with higher levels of within-country variance of QoG.

H5: Greater levels of political decentralization will systematically impact the level of QoG at the country-level.

Results

We present the results in two steps, first with bivariate scatterplots then with multivariate OLS with country fixed effects for the five hypotheses. While admittedly simplistic and unable to determine causal direction, we argue that as a ‘first cut’ analysis with the EQI, the straight-forward scatterplots and basic fixed effects regressions are quite revealing.

We use one of the most established indicators of socio-economic development to test H1 – the *Human development Index* (HDI). This is a composite index based on several measures such as life expectancy in good health, net-adjusted household income, and ratio of high and low education achievement in the population from 25 to 64 (Bubbico et al. 2011). The HDI ranges from 0-100, with higher values equalling greater levels of socio-economic development²⁹. Given the strong likelihood of endogeneity between QoG and the HDI, as well as additional factors that could cause increases/decreases in either QoG or human development, we begin with to the most basic analyses: a bivariate scatter plot with significance values to show the regional and country variation across the EU, and an OLS regression with fixed country effects to account for unobserved country differences to test whether the relationship between development and QoG is also present *within* countries in Table 2.

****Figure 3 about here****

*** *Table 2 about here****

²⁹ A description of all variables in this section is found in the appendix. The HDI is not available for overseas French departments.

Figure 3 shows clear support for H1. The R^2 statistic shows that the HDI explains almost 60% of the total variation of the EQI. The beta coefficient from the bivariate regression reveals that that an increase by 25 points in the HDI is associated with an increase in the EQI by '1' (or one full standard deviation). Looking at Table 2, we find that the relationship between the EQI and HDI holds when controlling for population, area size and country-fixed effects (model 1) and even when controlling for social trust in a more limited sample (model 3). In all cases HDI is significant at the 99% level of confidence.

Figure 4 about here

Figure 4 illustrates the relationship between QoG and the size of a region (population or area). Both population (in thousands) and area (in squared kilometres) are taken from Eurostat. In order to explore different connections, we show the relationship between the EQI and logged variables for the size of regions³⁰. Here we find no evidence to suggest that more (or less) populous regions have higher levels of QoG in the EU-wide sample. Nor do we find that area size is systematically linked with the EQI. Yet in Table 2 we discover an interesting finding, namely that when fixed effects and the HDI are included, both variables become significant. This means that while not significant EU-wide, more populous regions and larger regions in terms of area have lower and higher QoG respectively *within* countries. A closer look at the data show that in several countries, the populous and smaller-area regions such as Bucharest, Sofia, Prague, London, Brussels and Budapest have the lowest QoG score in their respective country, which is mainly driven by the fact that citizens in these regions rated the three public

³⁰ In addition, we test the relationship with the non-logged variables, with the only difference being a slightly weaker relationship with the EQI.

services to be more corrupt compared with other citizens in other regions within these countries. We find that area size is positively related with the EQI when controlling for country-fixed effects, yet this finding is not as robust as the population variable. We conclude that while the two variables are not significant EU-wide, they are systematically related, on average, within countries, demonstrating somewhat mixed support for H2. An explanation could be that in large cities (which tend to have a large and often diverse population in a small area), residents have more opportunities to experience corruption than in other regions in the same country; this explanation, however, requires further research.

In figure 5 we test H3. Data on social trust is taken from Tabellini (2005) and is available at the regional level for 73 EU regions³¹. Figure 4 shows a strong, positive relationship between trust and QoG and the best coefficient (0.03) is positive and significant at the 99% level of confidence. The bivariate relationship weakens somewhat when removing the Italian regions from the analysis (beta drops to 0.018), yet the relationship remains 99% significant³². Furthermore, even when controlling for country fixed effects, we find that higher levels of QoG are associated with higher social trust within countries as well, yet the relationship drops from significance in model 3 of Table 2³³. Again, deciding whether this correlation follows a causal relationship – as well as the direction of this causality (see Rothstein and Uslaner 2005 for a thorough discussion on

³¹ Regions are available for Belgium, Italy, Spain, U.K., Germany (West only), Portugal and Netherlands

³² We would like to thank an anonymous reviewer at regional studies for this suggestion. Scatter plot without Italian regions not shown here. The bivariate relationship results yielded the following results: β : 0.018, p-value: 0.001, R^2 : 0.24, observations: 52.

³³ That ‘trust’ falls from significance in model 3 is most likely due to multicollinearity – the correlation between HDi and trust is 0.63.

this issue) – or if it is spurious is, because of the cross-sectional nature of the data analysed, beyond the scope of this analysis.

****Figure 5 about here****

In testing H4 and H5, we begin by looking at the level of within-country variation (measured as the distance between highest QoG regions minus the lowest in each country³⁴) and country levels of QoG in federal, semi-federal and unitary countries. In Figure 2 we show the EU 27 in rank order with respect to the EQI and the sub-national variation in each country³⁵. Here we find that some EU countries considered as truly federal – Austria and Germany – have less within-country variation in QoG than Romania or Bulgaria – two highly centralized countries. In addition, Austria and Germany have less within country variation than two highly centralized older EU members such as Portugal or Greece, yet another federal country, Belgium, reveals much variation among its regions.

The countries that are considered ‘semi-federal’ and have meaningful political and administrative regions within the data – Spain and Italy – have quite high within country variation. Nevertheless, with only two data points, it is too difficult to generalize. Moreover, while the three federal countries perform above the EU mean, the two semi-federal countries are at (Spain) or below (Italy) the EU-average and unitary countries range from highest (Denmark and Sweden) to lowest (Romania and Bulgaria). What we can see however – at least in terms of a unitary/federal variable – is that there is no clear relationship with this and within-country QoG variation or country-wide QoG levels.

³⁴ In addition to the parsimonious ‘min-max’ method of calculating regional variation within a country, we tested H4 using a Gini Index and the coefficient of variation. Differences in the results are negligible.

³⁵ There are of course multiple ways of measuring the extent to which ‘within country variation’ is present. We chose the most simple method for the sake of parsimony– min-max (max regional score minus the min score in each country). For more approaches to this issue, see Shankar and Shah (2003: 1422-1425)

To further test H4 and H5, we take advantage of several recent indicators of political decentralization from Hooghe, Marks and Shackel (2010). We test whether four of their variables indicating the level of political decentralization are related with either higher within-country QoG variation or simply higher levels of QoG levels. Those indicators of decentralization are: ‘*policy scope*’, ‘*representation*’, ‘*law making*’, and ‘*constitutional reform*’³⁶.

****Figures 6 & 7 about here****

Figures 6 and 7 show the relationship between the four decentralization variables and QoG for the 18 countries that have regional data in the EQI.³⁷ In figure 6 we find no evidence suggesting that higher levels of *policy scope* or *representation* have any relationship with either within-country QoG variation or levels of QoG at the national level. Although all four Pearson correlation coefficients are in the expected direction (positive), none are statistically significant at even the 90% level of confidence. In Figure 7, we can see that neither higher levels of decentralization – measured as *law making* and *constitutional reform* – are associated with greater disparities of within-country QoG among regions. In this case, Pearson correlation coefficients are in the opposite direction than expected (i.e. negative), yet they are statistically indistinguishable from zero. We find some empirical evidence however to suggest that EU countries that have greater regional *law making* and *constitutional reform* have higher levels of overall QoG according to the EQI, yet the correlations are not within but only near the levels of conventional acceptability, yet with a majority of EU countries scoring ‘0’ on both these

³⁶ For a description and statistical summary of each variable, see the appendix. For a more detailed description of these variables, see Hooghe et al (2008: 126-136).

³⁷ IN both figures, the left-hand side (within-country variation) tests H4, while the right side tests H5 (EQI).

measures, any generalization from these results on decentralization and variation in, or actual levels of, QoG should be made with a good deal of caution.

Conclusions

The original data and analysis presented in this analysis make several contributions to the literature. First and foremost, we have mapped out the levels of quality of government among 172 EU regions based on the experiences and perception of citizens, which, in combination with the external, largely expert assessment of the national level data, represents the most encompassing data up to date on sub-national variation in corruption or good governance variables. We believe that this study and data may be highly valuable to both scholars and practitioners alike focusing on a wide range of topics regarding governance in Europe. For example, a region with a low QoG in the EU is much less likely to use the Cohesion Policy funds in an efficient and effective manner, or have lower levels of small business entrepreneurship (Charron, Lapuente and Nistoskaya 2012). Such a region may remain stuck in low growth and low QoG equilibrium, while the regional government remains to some degree sheltered from the financial consequences of low QoG through continuing support from the EU. This may explain why the reform of EU Cohesion Policy puts a greater emphasis on creating the right conditions for development as an important prerequisite to (continue to) receive funding (European Commission 2010b).

Finding the right mix of incentives and policies that improve QoG in lagging regions could make a substantial contribution to higher growth in those regions and thus to more convergence between EU regions. The data presented here can serve as a

valuable benchmark to monitor changes in governance at the national and regional level in the EU.

This study has found a notable amount of variation both *between* and *within* EU countries. At the national level, a first group of Northern European countries tend to show the highest levels of QoG. They distinguish themselves from the three groups next on the ladder: the second group encompasses most Southern-Mediterranean states – together with Estonia and Slovenia – with moderate levels of QoG; the third group covers most of new member states that demonstrate moderate to low levels of QoG; the fourth group consists of the two newest member states that have the lowest levels of QoG in the EU. At the regional level, significant within-country variations can be found in federal or semi-federal nations such as Italy, Belgium or Spain, but also, noticeably, in more centralized ones, such as Portugal, Romania or Bulgaria. Other countries, like Denmark, Poland, Austria or Slovakia show very little variation across regions.

We tested five hypotheses which could help to explain some of the variation in QoG found between and within EU countries. We found strong empirical evidence that the HDI is positively related to our indicator of QoG – both within and across countries in the EU. We found similar evidence with respect to our variable for social trust. On H2, we found a more nuanced relationship – the EQI had no statistical relationship either within or across the full sample, yet when accounting for country-fixed effects, we found robust evidence to suggest that more populous (regions with greater area size) have lower (higher) QoG *within* countries themselves on average, which may imply that QoG is lower in the large cities in a country, which the data show, is largely driven by higher corruption in these areas relative to other regions.

Most surprising, given the sizeable literature on the consequences of federalism and/or decentralization for governance, was the lack of relationship between a relatively large number of proxies for political decentralization and QoG. We hypothesized that countries with greater degrees of political decentralization would exhibit higher degrees of within country variation of QoG for their respective regions. We found no such evidence using several different measures of political decentralization. Furthermore, there is no empirical pattern between decentralization and country-levels of QoG according to the EQI – decentralized and /or federal countries are not more or less likely to have higher levels of aggregate QoG relative to more unitary/centralized states within the EU.

One explanation could be that variation within a country is linked to variation in both political *decision-making* (as we would expect in federal/more politically decentralized countries) and the quality of *implementation* of a (theoretically) centrally administered service, which has been relatively overlooked in the theoretical literature on federalism. For example, even though a country like Romania is highly politically centralized, certain regions may have developed specific patterns of policy implementation (e.g. more merit-based and less patronage-based public organizations), which may play a decisive role in the quality of their public services. The only consistent pattern is that irrespective of decentralization, the countries in the highest cluster group all have relatively low within-country QoG variation – even Germany and Austria, which are federal countries.

The findings presented in this study open the door to several relevant questions which could be explored in future research. For instance, which cultural legacies, economic variables or institutional factors may explain the notable regional differences

on governance? How are – for example, regional QoG and political party or electoral systems at the regional level related? The data presented here can thus be of use for scholars addressing these questions in fields as diverse as comparative political economy, EU studies, federalism, decentralization and regional politics or comparative public administration. In addition, with regions playing such a growing role in the provision of public services and being the recipients of large transfers – at national level in many EU member states, but also at European level through the EU development funds – the data presented here can serve as an initial tool of empirical assessment for practitioners interested in regional development policy and aid allocation.

Based on the findings of this study, we would like to conclude by underscoring the importance of focusing on QoG not only in developing regions of the world but inside the EU. As this study has shown, still too many EU residents report to have first-hand experience of corruption and discrimination and the share of residents confronted with these issues is far higher in some regions and countries. Despite the methodological problems always inherent to capture a concept like “good governance”, our preliminary data indicates that QoG in the EU seems to vary to a very large extent both between countries and between regions within these countries. In addition, those regions where QoG is perceived to be low by their own citizens are those regions that perform the worst in the standard indicators of human development. A tentative normative conclusion would thus be that – apart from the existing transfer policies – a joint and targeted effort to improve QoG in those regions with lower levels could substantially improve the economic prospects of these regions and the lives of their residents.

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Table 1: National Level Scores, Rankings and Cluster Groupings of QoG in the EU 27

<i>QoG Rank (EU)</i>	<i>Country</i>	<i>Combined QoG Score</i>	<i>Equivalent non-EU Country</i>
1	DENMARK	1.978	Switzerland
2	SWEDEN	1.915	Switzerland
3	FINLAND	1.909	Switzerland
4	NETHERLANDS	1.834	New Zealand
5	LUXEMBOURG	1.747	Canada
6	AUSTRIA	1.701	Australia
7	UNITED KINGDOM	1.628	Singapore
8	IRELAND	1.628	Singapore
9	GERMANY	1.620	Singapore
10	FRANCE	1.403	United States
11	BELGIUM	1.368	Barbados
12	MALTA	1.268	Japan
13	SPAIN	1.103	Chile
14	PORTUGAL	1.084	Chile
15	CYPRUS	1.077	St. Lucia
16	ESTONIA	1.043	St. Lucia
17	SLOVENIA	0.994	Israel
18	CZECH REPUBLIC	0.826	Uruguay
19	HUNGARY	0.759	South Korea
20	SLOVAKIA	0.651	Botswana
21	LATVIA	0.608	Costa Rica
22	GREECE	0.574	Cape Verde
23	LITHUANIA	0.563	Cape Verde
24	POLAND	0.552	Qatar
25	ITALY	0.480	South Africa
26	BULGARIA	0.101	Panama
27	ROMANIA	0.059	India

Note: 'Comb. WGI' shows the combined averages of the 4 pillars of QoG from the WGI in 2008. Each WGI pillar is standardized so that the world average is '0' with a standard deviation of '1'. QoG rank is within the EU countries only, thus Estonia for example is roughly one full standard deviation above the world average. Cluster groups are in the four distinct colour blocs from lightest (highest QoG) to darkest (lowest QoG).

Table 2: Impact of HDI, Population, Area and Trust with Country Fixed Effects on the EQI

	1	2	3
HDI	0.02** (0.003)		0.03** (0.007)
Trust		0.03** (0.004)	0.008 (0.31)
Population	-0.28** (0.001)	-0.27** (0.002)	-0.36** (0.000)
Area	0.13** (0.002)	0.09 (0.08)	0.18** (0.005)
Country Effects			
AUSTRIA	.56**		
BELGIUM	-0.01	0.32	0.04
BULGARIA	-1.29**		
CZECH REPUBLIC	-0.30		
DENMARK	1.06**		
FRANCE	0.12		
GERMANY	0.79**	.15**	.16**
GREECE	-0.94**		
HUNGARY	-0.02		
ITALY	-0.82**	-0.97**	-0.74**
NETHERLANDS	1.02**	0.84**	0.81**
POLAND	-0.46*		
PORTUGAL	0.61*	0.26	1.04**
ROMANIA	-0.75*		
SLOVAKIA	-0.41*		
SWEDEN	0.62**		
UNITED KINGDOM	0.65**	.93**	.61**
Constant	-0.31 0.49	0.37 0.48	-1.08 0.11
obs	169	73	73
Rsqr.	0.87	0.75	0.79

note: OLS regression with fixed country effects, Spain used as reference group. HDI is 'Human Development Index (0-100)', Population and area are logged values. 'Trust' is only available for Belgium, Germany (west), Italy, Netherlands, Portugal, Spain and UK.

** $p < .01$, * $p < .05$

Figure 1: The EQI

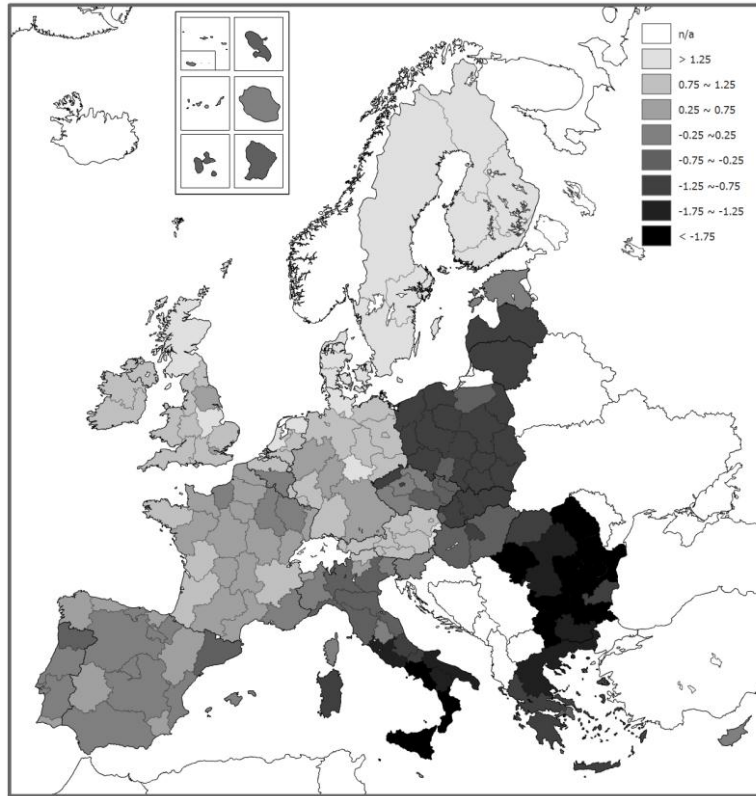
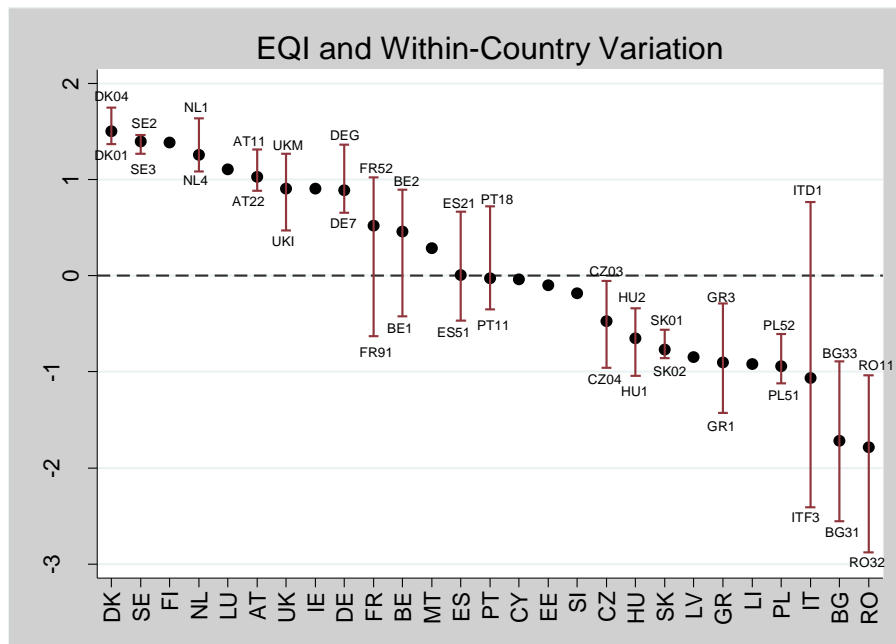


Figure 2:



Note: exact scores, country and regional NUTS abbreviations are found in the appendix

Figure 3

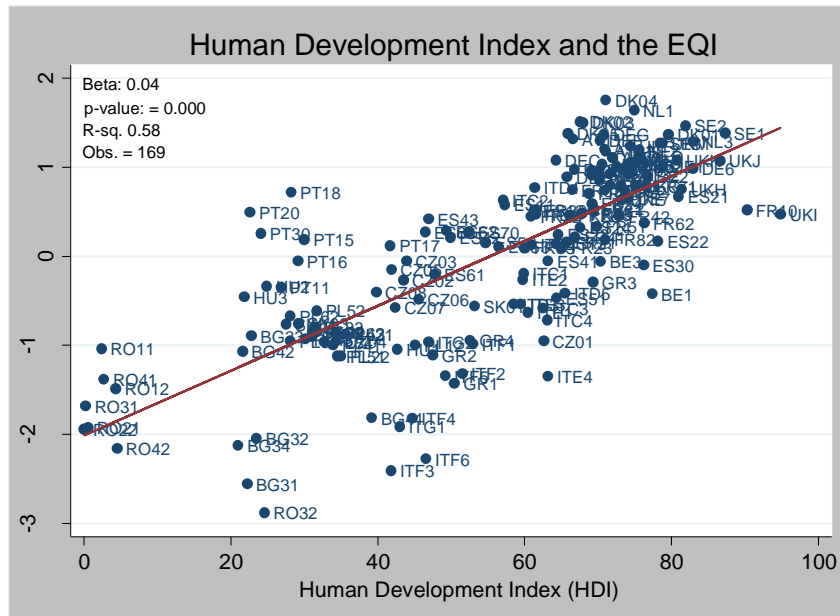


Figure 4

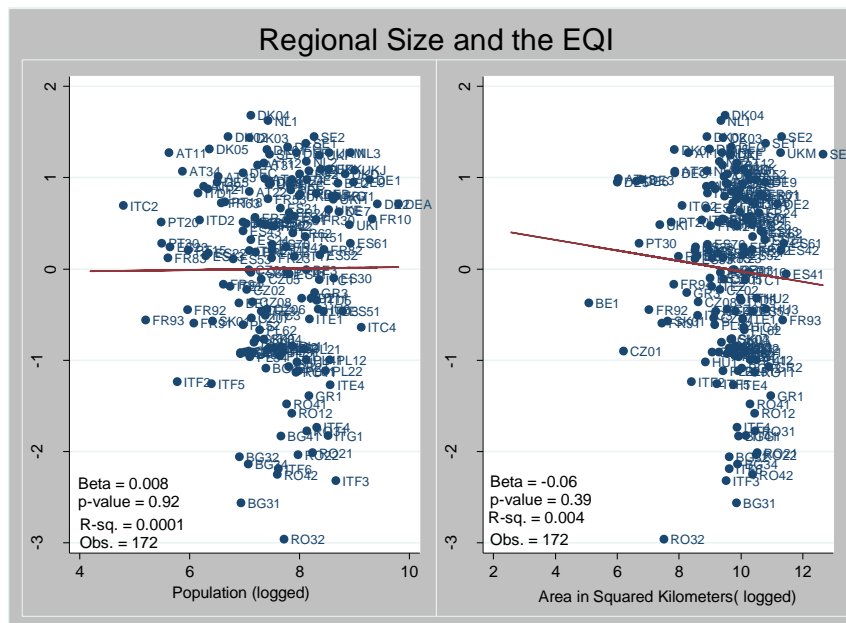


Figure 5

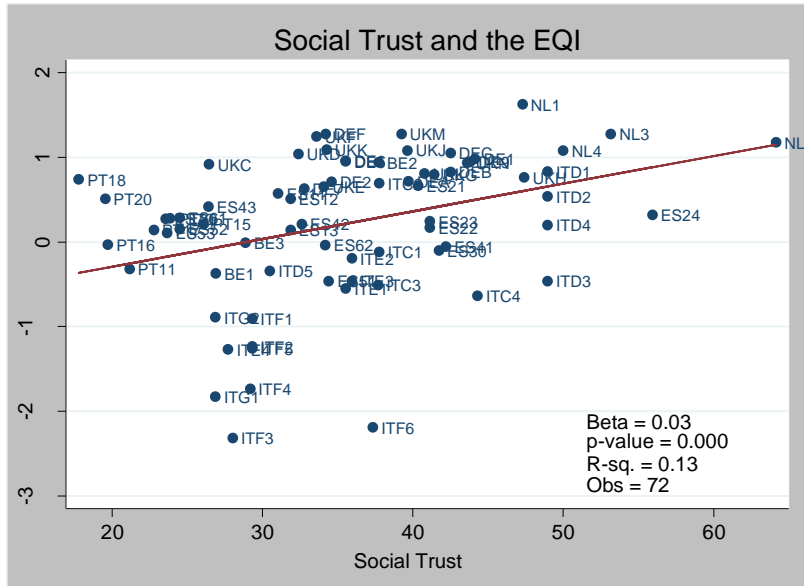


Figure 6: Political Decentralization, EQI and within Country Variation

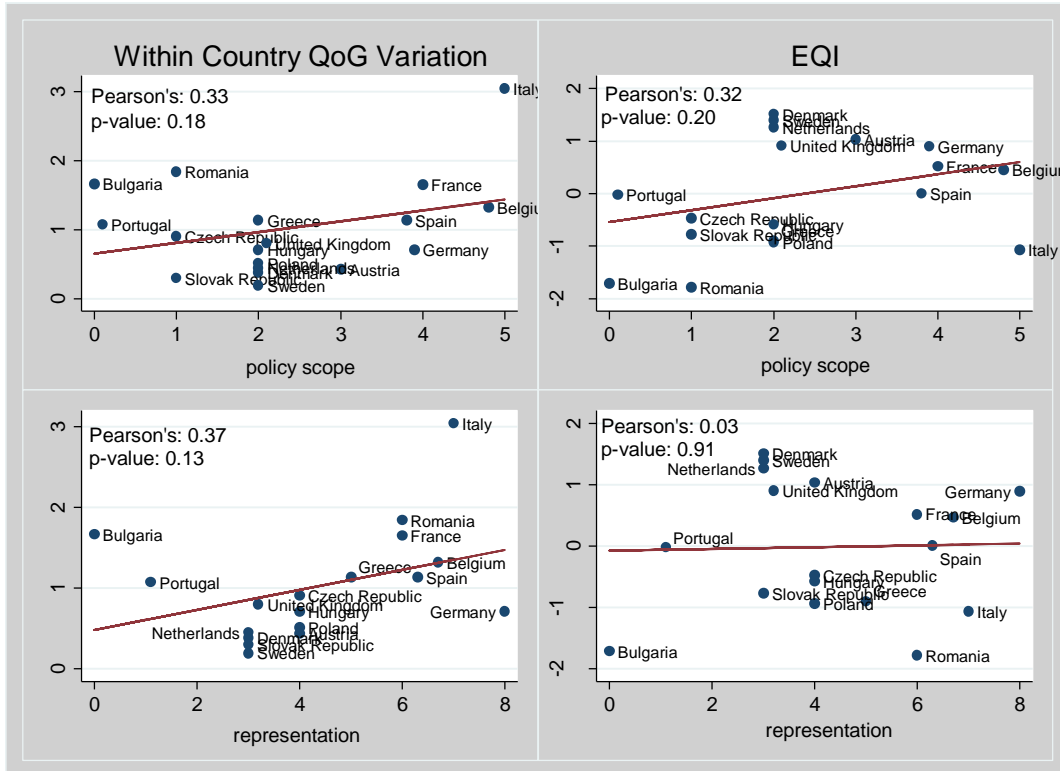


Figure 7: Political Decentralization, EQI and within Country Variation

