UNIVERSITY OF GOTHENBURG

MEASURING MERITOCRACY IN THE PUBLIC SECTOR IN EUROPE:

A New National and Sub-National Indicator

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Introduction

Since the late 19th century, the presence of an independent and meritocratic bureaucracy has been posited as an advantage for effective bureaucratic behavior and a means of limiting patrimonial networks and corruption, among other benefits (Northcote and Trevelyan 1853; Wilson 1887). In his influential writings, Max Weber (1978 [1922]) argued that the bureaucratic organization, based on merit principles, was a superior form of organization which, in addition to other things, contributes to economic development. These suggestions have informed debates in political science, sociology and economics ever since, and modern day studies have often confirmed the original ideas (Dahlström, Lapuente and Teorell 2012; Evans and Rauch 1999; Krause, Lewis, and Douglas 2006; Horn 1995; Miller 2000; Peters and Pierre 2001).

There is little consensus on how the features of an independent and meritocratic bureaucracy should be measured across countries, however, and broad empirical studies are therefore rare. The few such studies that exist have advanced measures that focus on certain aspects of meritocratic practices such as hiring, predictable long-term employment, time horizons and relatively high salaries, always on the country level. They are also constructed exclusively on expert surveys (Dahlström et al. 2015; Evans and Rauch 1999; Teorell, Dahlström and Dahlberg 2011). Although these have indeed contributed to the knowledge in the field, the data on which they are built come with some problems. First, even though expert assessments are sometimes the only way to learn about complex variables, and are therefore valuable tools, they are far from perfect. Probably everyone would agree that more direct, experienced based measures are preferable. Second, even when we talk about national bureaucracies in centralized countries, there are remarkable differences within countries in how institutions perform de facto and in policy outcomes (Charron and Lapuente 2013; Charron, Dijsktra and Lapuente 2014; Tabellini 2008). Country means naturally miss this variation and therefore introduce what Stein Rokkan (1970) called a "whole-nation-bias" into comparative studies. Third, as Olsen (2005) remarks, there are many aspects of a Weberian bureaucracy that do not pull in the same direction. Aggregating different aspects of it—for example into a "Weberianess scale" (Evans and Rauch 1999, 755)—might therefore bias conclusions.

Here we propose a set of novel measures that complement existing measures in all these three aspects and thus fill important gaps in this burgeoning literature. The measures we present are not

based on expert assessments but on public sector employees' experience and citizens' perceptions. We create two measures—that can be combined into one—from a recent survey (2013) of over 85,000 citizens in 24 European countries. One taps directly into public sector employees' experiences and asks whether they think success in the public sector is based on merit or on connections and luck. The other is based on perceptions of citizens working outside the public sector. In order not to have to trust country means, we follow Snyder's (2001) suggestion and explore within country variation at the sub-national level that allows scholars to test causal inferences within countries, which constitutes a new level of analysis in this field. To capture this, the survey offers a sample of over 400 respondents in 212 regions in the 24 European countries included, which makes it possible for us also to explore spatial variations in bureaucratic meritocracy within countries. We are therefore able to offer the first indicator of regional level experiences and perceptions of the extent to which the public sector is meritocratic, together with aggregated cross-country measures. Finally, we follow Evans and Rauch (1999) and study the personnel side, because it is arguably the most important side of an independent and meritocratic bureaucracy. However, in contrast to previous measures that focus on the *de jure* rules (salaries, hiring practices etc.), we capture more closely the *de facto* side—whether success in the public sector is based on merit, according to current employees (experiences) and citizens who are both potential employees and users (perceptions).

The rest of this paper discusses the survey in general and the questions employed to build our two measures. We use the experienced based measure to map meritocracy in Europe. Later, we explore the external validity of the measures provided here, showing correlations with alternative measures based on expert opinions, as well as standard variables from the literature that we would expect to correlate highly with a meritocratic bureaucracy, such as GDP per capita, corruption, bureaucratic effectiveness, rule of law, human development (HDI), measures of inequality (income and gender) and social trust. We find that when we aggregate the measures to the national level, they correlate strikingly highly with alternative, expert-based survey data, along with measures of economic and social development, which lends credibility to the sub-national indicator. The measure at the sub-national level correlates highly with past measures of petty corruption (percentage of reported bribery), the European Quality of Government Index (EQI) (Charron, Dijkstra and Lapuente 2014) and several similar indices of social and economic development and social trust. Thus, despite capturing this concept from a different direction, previous measures based on formal/expert assessments are in strong agreement with our informal/citizen experience-based measure. We finally look at the extent to which meritocracy varies spatially within countries. We ask whether this variation is

meaningful and try to answer by means of correlating it with Kuznets' curve of economic development (1956), openness to trade, length of European Union membership and political and fiscal decentralization. Our measure correlates as expected, which is an indication that the variation it is picking up is not only random.

Measuring Meritocracy in the Public Sector: a Review of Existing Measures

Contrary to the case in economics and political science, for example, public administration has seen few broad comparisons because the lack of data. While we know relatively much about the impact of political regimes, types of elites, openness and media freedom on for example corruption (Treisman 2007) and economic growth (Person and Tabellini 2003), the lack of data on bureaucracies has hampered our understanding of the effects of bureaucratic structures, although there is good reason to believe that how bureaucracies are organized is very important. There are indeed several case comparisons (e.g. Silberman 1993), edited volumes with comparable case studies (e.g. Peters and Pierre 2004) and studies on single countries (e.g. Lewis 2008) that make it safe to conclude that how the bureaucracy is organized, generally, and the level of meritocracy, specifically, are central to bureaucratic efficiency and effectiveness, but we don't know how important it is compared to other factors, or whether effects are similar across the globe. For that we would need data that are difficult to find.

To our knowledge there are only two datasets where the structure of bureaucracy is measured in a broad set of countries. The first is Peter Evans and James Rauch's pioneering work (Evans and Rauch 1999; Rauch and Evans 2000) that covers 35 developing or semi-industrialized countries and focuses on the period from 1970-1990. While it provides important insight into the bureaucratic structures of a particular group of countries that experienced unprecedented growth rates with the help of autonomous bureaucracies (such as Spain, South Korea and other Asian "Tigers"), it remains unclear whether the same results hold for other parts of the world. The second broad dataset is newer, includes more countries, and is collected by the Quality of Government Institute on two different occasions (Dahlström et al. 2015; Teorell, Dahlström and Dahlberg 2011). Based on these two datasets, the impact of bureaucratic structures, such as meritocratic recruitment to the public sector, is shown to have a surprisingly large impact on corruption (Dahlström, Lapuente and Te-

orell 2012; Rauch and Evans 2000), economic growth (Evans and Rauch 1999), poverty reduction (Henderson et al. 2007) and effectiveness and reform capacity (Dahlström and Lapuente 2014).
As mentioned in the introduction, these datasets are limited as they are based on expert assessments, are thus perception based, and are only available on the national level, even though there might be a great deal of sub-national variation. Although both datasets have produced valuable results, there is very much room for improvement.

Measuring Public Sector Meritocracy 'from Below': A Citizen Experience Index

Meritocracy in the public sector

According to Evans and Rauch (1999), meritocracy in the public sector is mostly a product of two factors. The first is the weight put on education and examination when a public employee is hired, and the basic question of the grounds on which the employee is hired is a powerful signal of whom she owes her loyalty: to her peers, the Corps or the ruling party. The dividing line goes between systems that appreciate education and talent, on the one hand, and systems in which strong ties with the hiring part are pivotal, on the other.

However, although the signal given when recruiting public employees is important, it is not the only way that public employees learn what is appreciated. The second factor, claimed by Evans and Rauch (1999), therefore concerns what makes the rest of the career successful for a public employee. In a Weberian understanding of meritocracy (Weber [1922] 1978), predictable careers and long-term employment are important for creating a working environment in which meritocracy is rewarded. Appreciating hard work or appreciating connections gives rise to two rather different systems of governance.

We will try in this paper to measure the *de facto* level of meritocracy in a bureaucracy. As we will describe in more detail below, we use a different strategy than previous studies: we will not try to observe institutions and routines that are supposed to contribute to meritocracy but rather try to measure it directly.

The European Quality of Government Survey 2013

Our measure uses several survey questions from the latest round of the survey, which is funded by the European Commission's Seventh Annual Framework (Charron, Lapuente and Rothstein 2013) and is intended to track citizen experiences and perceptions of "quality of government" (QoG) in the public sector. The survey was started in February, 2013, and was conducted in the local majority language in each country/region. It included 24 questions on the quality of institutions as well as demographic questions about the respondents. The results were returned to the Quality of Government Institute (Sweden) in April, 2013.

The large international survey was conducted via telephone interviews, each of approximately ten minutes in length, during which 32 questions were posed. The total sample of respondents was over 85,000 individuals across Europe. The focus of the data is the regional level and the survey selectively sampled over 400 respondents per region. The sample size per country thus varies depending on the number of regions. The regional level for each country in the survey is based on the European Union's NUTS statistical regional level[1]. The NUTS level for each country was selected according to two factors—the extent to which elected political authorities have administrative, fiscal or political control over one or more of the public services in either health, education or law enforcement, and the price for conducting the survey. In direct consultation with the EU Commission, the NUTS 1 and 2 regions were selected on these bases[2].

As a consequence of this dissension, one issue that must be dealt with is that the regions we are targeting in some countries—such as Germany, Belgium, Italy or Spain—are both politically and administratively meaningful, while others are less so. This is to say that their local constituents elect these regional governments, have their own autonomous revenues (either from directly taxing citizens or central government transfers or both) and a degree of autonomy with which to redistribute resources in the form of public services. In more politically centralized countries, such as Bulgaria, Romania, Slovakia or Portugal, this issue becomes more challenging. The regions of our focus (NUTS 1 or NUTS 2), while meaningful in the sense that EU development funds are targeted directly to them and that Eurostat reports annual data on them, have in some cases been mainly an

[1] NUTS stands for 'Nomenclature of territorial units for statistics' and is made up of statistical regions for the EU and other European countries. For further information, see: http://ec.europa.eu/eurostat/web/nuts/overview
[2] The sample of countries and corresponding NUTs level and regions is reported in Appendix 1.

invention for EU statistical purposes, and are not politically meaningful. For this reason, asking a respondent in some cases whether most people in the public sector "can succeed if they are willing to work hard" in your region might be a bit confusing, since respondents from countries such as Hungary or Romania might not recognize that they are even living in that region.

It can therefore be argued that the administrative and political responsibility of the NUTS regions varies too much in different countries and thus poses a problem in analysing these data. We recognise this problem and therefore include a variable identifying the politically relevant regions, which makes it possible for anyone to take this issue into account. We would however argue against generally dropping the regions from the centralized countries as we attempt to capture all regional variation within a country and, as several other scholars have noted (e.g. Tabellini 2008), there are numerous empirical indications and anecdotal evidence pointing out that provision, quality of public services, and informal rules in countries with powerful central governments can nonetheless vary greatly across different regions.

Thus, to synthesize the survey and make the results as comparable between and within countries as possible, we ask respondents questions that focus on de facto meritocracy and other concepts that the survey is trying to capture *in their area.*

In order to build the indictor of meritocracy discussed in this paper, we employ the following survey question:

> "Which statement comes closer to your own views? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; if your views fall somewhere in between, you can choose any number between 1 and 10:
> 1 (In the public sector most people can succeed if they are willing to work hard)
> 10 (Hard work is no guarantee of success in the public sector for most people—it's more a matter of luck and connections)"

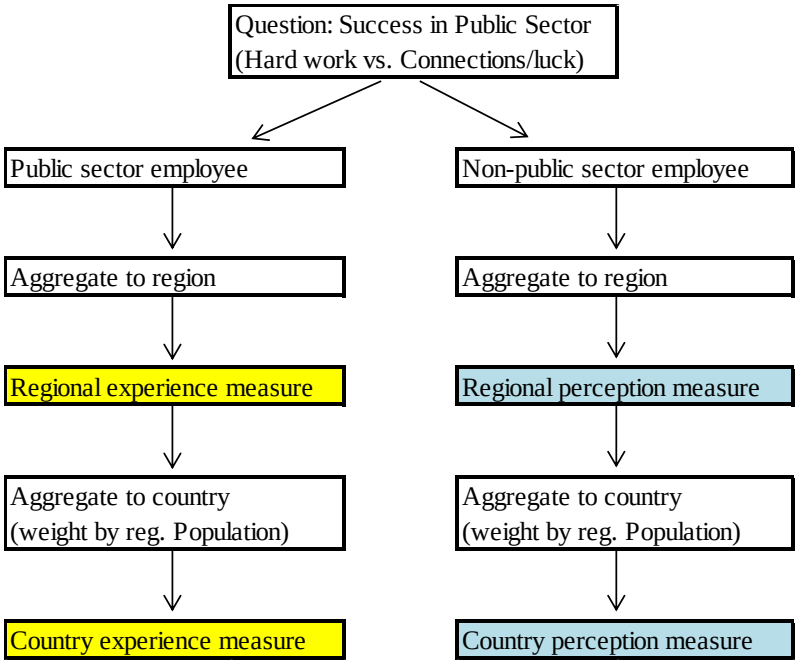
As we have indicated, we build two different measures from this question. The first is more experience based, and the second is based on perceptions. To separate between experience- based and perception-based responses, we thus take a second step and draw from the following question:

> "As far as your current occupation is concerned, would you say you work in the public sector (a public sector organization is either wholly owned by the public authorities or they have a majority share), the private sector or would you say that you are without a professional activity?
> PUBLIC SECTOR (Military / Soldier; Law enforcement/ police/ fire-fighter; Health care worker/ doctor; Teacher, Academic, researcher; Other government agency)
> PRIVATE SECTOR (Self-employed / small business owner/ Freelancer; Other private sector employee)
> WITHOUT A PROFESSIONAL ACTIVITY (Currently unemployed; Housewife / Houseman; Pensioner, retired; Pupil / Student / Trainee; Other)"

We record whether respondents answered that they were employed in the first five categories ("public sector") as an answer based on experiences, while all other professions fell under perceptions of public sector meritocracy. Of the over 85,000 respondents, roughly 30 percent work in the public sector in some capacity while, consequently, 70 percent do not.

This gives us two different measures of meritocracy in the public sector. In the final step, we aggregate these answers, either to the regional (NUTS 1 or 2) or to the national level. Figure 1 shows the roadmap used in this paper to build the sub-national and national level indictors from the survey data.

FIGURE 1, ROADMAP FOR SUB-NATIONAL AND NATIONAL LEVEL INDICTORS (EXPERIENCES AND PERCEPTIONS)

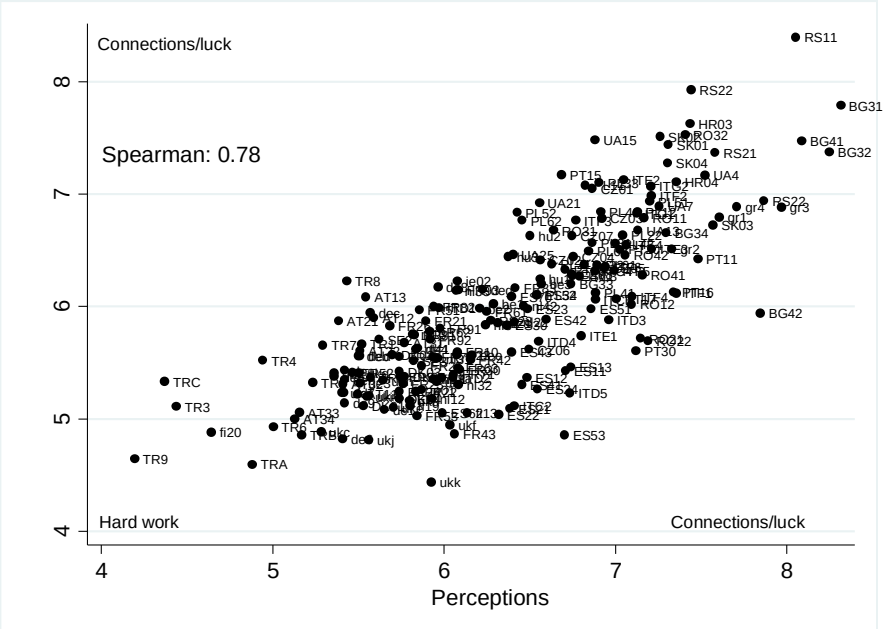


Comment: Based on the European Quality of Government survey 2013, which has a total sample of over 85,000 individuals, with over 400 respondents per region (NUTS 1 and 2).

Correlations between the measures and variations at the sub-national and national levels

We begin by looking at the correlation between the experienced-based and perception-based assessments of public sector meritocracy (e.g. public sector employees relative to non-public sector employees). This is illustrated in Figure 2 below. The data show that the two measures are in striking agreement—of the 206 regional estimates, 197 fit within a 95% confidence interval, and the Spearman Rank coefficient is 0.75. This demonstrates that there seems to be a relatively well-understood consensus about the extent to which success in the public sector is determined by merit versus connections/luck, irrespective of direct experience.

FIGURE 2: COMPARISON OF EXPERIENCE VERSUS PERCEPTIONS OF PUBLIC SECTOR MERITOCRACY

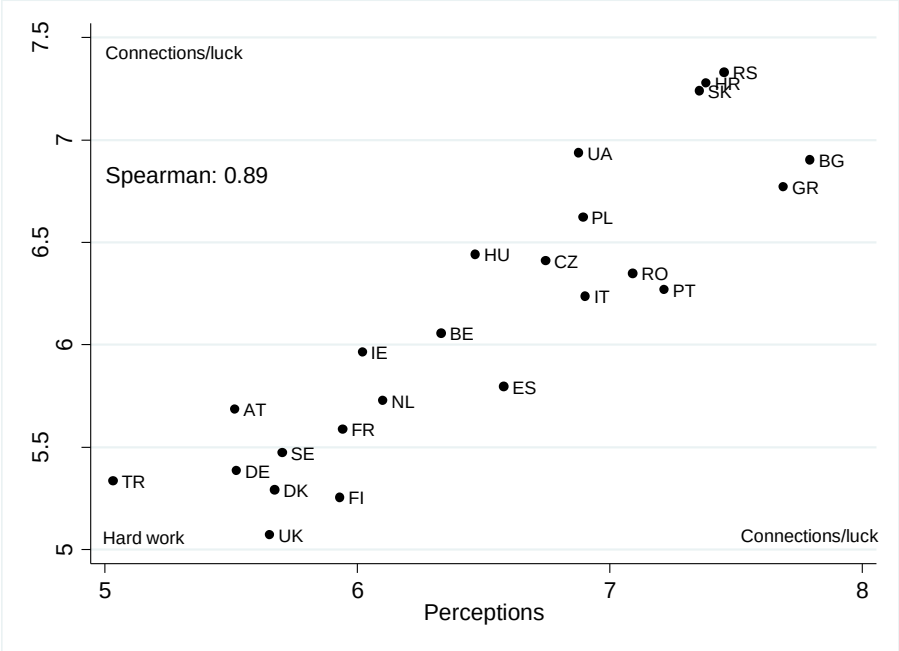


Comment: Figure 2 shows a comparison of the experienced-based and perception-based measures of meritocracy in the public sector on the regional level in Europe (NUTS 1 and 2 levels).

If we instead use the national level indicators, which consist of the population weighted average of all regional scores in each country; the two measures are even more strongly correlated, with a Spearman Rank correlation coefficient of 0.89, with no apparent outliers (see Figure 3 below).

We now move on to look at the spatial variation within Europe, with the help of our experienced measure on meritocracy. Overall, we find that there is significant variation in how public sector employees view the road to success in their field, yet respondents in the majority of European regions tend to lean towards "'luck and connections" (as indicated by a score greater than "5"). We find that the regional scores range from 4.3 (South Midland, England) to 8.3 (Belgrade Region, Serbia).

FIGURE 3, EXPERIENCE VERSUS PERCEPTIONS AT THE NATIONAL LEVEL

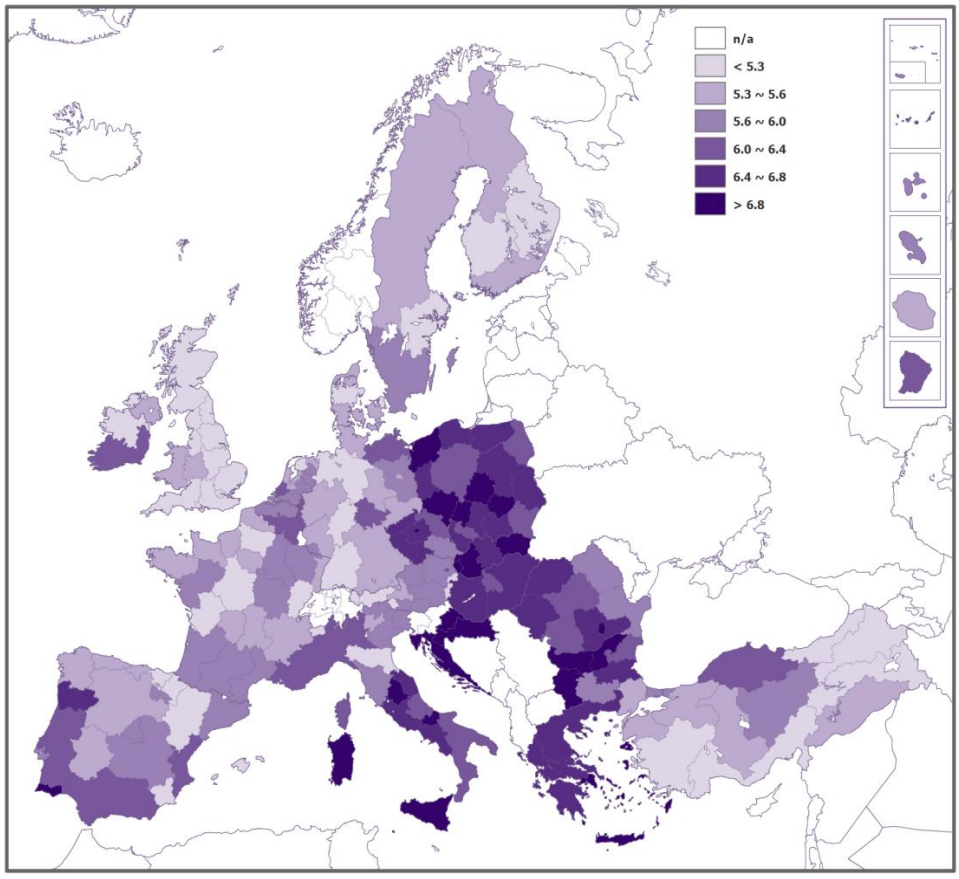


Comment: The national level indicators are a population weighted average of all regional scores in each country, on experienced-based and perception-based assessments of meritocracy in the public sector. The population data were taken from the most recent year available from Eurostat (2011).

Figure 4 shows the distribution by region in the sample (with the exception of Serbia and the Ukraine). Regions that are shaded lighter are considered more meritocratic.

Taken together, we make two observations so far: first, the correlation between the experienced-based and perception-based measures is high on the regional level and very high on the national level, and, second, there appears to be a large variation in some countries regarding how important merit is for success in the public sector across Europe on both the regional and national levels.

FIGURE 4, PUBLIC SECTOR MERITOCRACY IN 212 EUROPEAN REGIONS



Comment: The distribution shown in the figure comes from the experienced-based measure on meritocracy. Regions that are shaded lighter are considered more meritocratic by public sector employees.

Validity of the Meritocracy Measures on the National and Sub-National levels

As Adock and Collier note, "Measurement validity is specifically concerned with whether operationalization and the scoring of cases adequately reflect the concept the researcher seeks to measure" (Adock and Collier 2001: 529). Although there are numerous ways in which validity can be assessed, we evaluate in this section what Adock and Collier (2001: 530) call '*criterion validity*' (the extent to which our indicator relates to other, similar measures of our concept) and '*construct validity*' (the extent to which our measure correlates with indicators of related concepts where we would

theoretically expect a relationship from the relevant literature), or what might broadly be referred to as 'external validity' by some scholars.

The National Level

In this section we compare the measures presented in the previous section with other measures of meritocracy in the public sector, as well as indicators of institutional quality such as measures of public sector impartiality, corruption and rule of law, along with several correlates that have been elucidated in the literature. Although we would not expect the measure in this study to correlate exactly with alternative measures (we rely on citizens, not experts, etc.), a strong correlation with other related factors and established measures would demonstrate that the meritocracy measure in this study actually captures the underlying concept in question. As already noted, most existing measures are on the national, and not on the sub-national, level. We therefore start with the national level, for which Table 1 provides the correlates[3].

[3] Summary statistics and sources for data used throughout this section are found in Appendix 2

TABLE 1: CORRELATIONS WITH MERITOCRACY EXPERIENCE MEASURE

	Meritocracy Experience		
	Pearson's	P-value	obs
QoG Impartilaity	0.74	0.000	24
QoG Professional	0.75	0.000	24
QoG Closed	-0.03	0.870	23
Government Effectiveness (WGI)	0.72	0.000	24
Corruption (WGI)	0.78	0.000	24
Corruption (CPI)	0.80	0.000	24
Rule of Law (WGI)	0.77	0.000	24
Judicial Independence (WEF)	0.83	0.000	24
Property Rights (WEF)	0.86	0.000	24
Human Development Index	0.62	0.013	24
PPP per capita (WDI, logged)	0.58	0.002	24
Income Inequality (Gini index)	0.12	0.59	23
Gender Inequality (% women in lower house)	0.39	0.10	24
Gender Equality (economic rights, CIRI)	0.52	0.09	24
Political Trust (WEF)	0.76	0.001	24

Comment: Correlations reported with the merit experience indicator inverted (higher scores imply more meritocracy) in order to match the other variables. 'WGI' is World Governance Indicators; 'CPI' is Transparency International's Corruption Perception Index, 'WEF' is the World Economic Forum, WDI is the World Development Indicators, and the three QoG measures come from Teorell, Dahlström and Dahlberg (2011). The data are taken from the QoG institute's database (Teorell et al. 2013).

Assessing the criterion validity of the measure with other measures of different ways of organizing the public sector (Dahlström, Lapuente and Teorell 2012; Teorell and Rothstein 2012), we find that the citizen experience measure is highly correlated with two of the three dimensions ("impartiality" and "professionalism") while it is unrelated to "closedness". The "professionalism" index picks up the personnel side, including independence from politics, and meritocratic recruitment, and the "impartiality" index taps into neutral service delivery, while the "closedness" index measures the extent to which the bureaucracy is protected by, for example, special labor market laws. That the de facto measurement we are presenting here correlated with the two former but not with the latter is in fact exactly what one would expect, and underlines the point made earlier with reference to Olsen (2005). It is also in line with observations of cases in Southern Europe, such as Spain and

Greece, with extensive protection for the bureaucracy, combined with high levels of politicization (Parrado 2000; Sotiropoulos 2004).

In addition, we find that the correlations with similar indicators of institutional capacity, impartiality, rule of law and corruption are also in the expected direction, and fairly strong, with various measures of state capacity—corruption, rule of law and government effectiveness. All correlate with our measure at 0.72 or higher, and the correlations are significant at the 99.9% level of confidence.

In testing for construct validity, the measures of economic and social development, such as the HDI and per capita income, are also significant in pairwise correlations. On the basis of previous research we would predict that a meritocratic public sector is one that is highly related with impartiality—and thus more equal outcome across social groups on average—and we find that the measure is highly correlated with three measures of inequality (Henderson et al. 2007; Rauch and Evans 2000).

The two measures of gender inequality—political and economic—correlate at 0.38 and 0.52 respectively. Finally, the measure presented here is strongly correlated with political trust, at 0.76, which is also expected (Rothstein 2011).[4] The Gini index is in the expected direction, but non-significant, mostly due to several post-socialist countries, such as the Ukraine, Serbia and Slovakia, still having relatively low levels of income inequality (and low meritocracy) while England and Ireland demonstrate the reverse pattern.

[4] In general, Turkey is an outlier in our sample, and its exclusion noticeably increases almost all correlations in Table 1.

FIGURE 5, EXPERT VERSUS CITIZEN MEASURES OF MERITOCRACY (IMPARTIALITY)

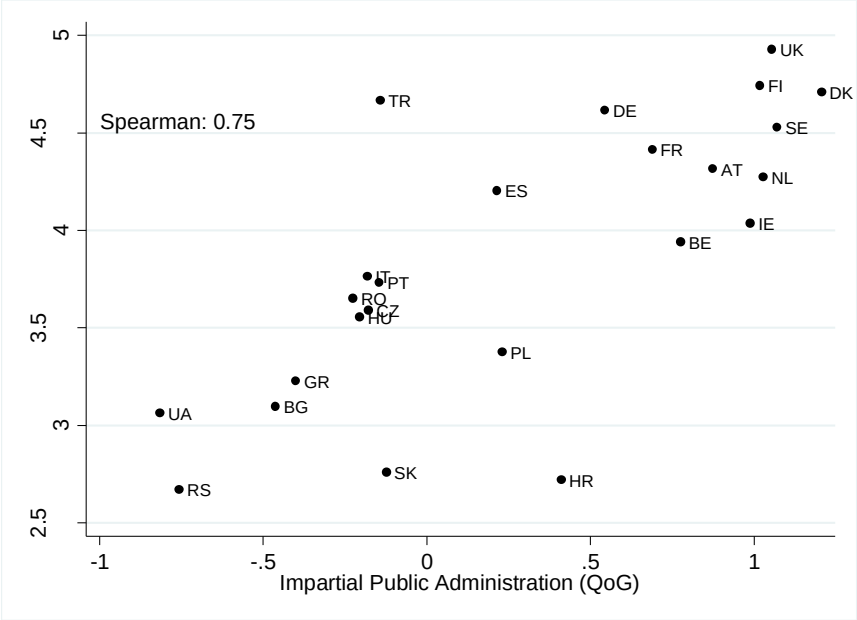
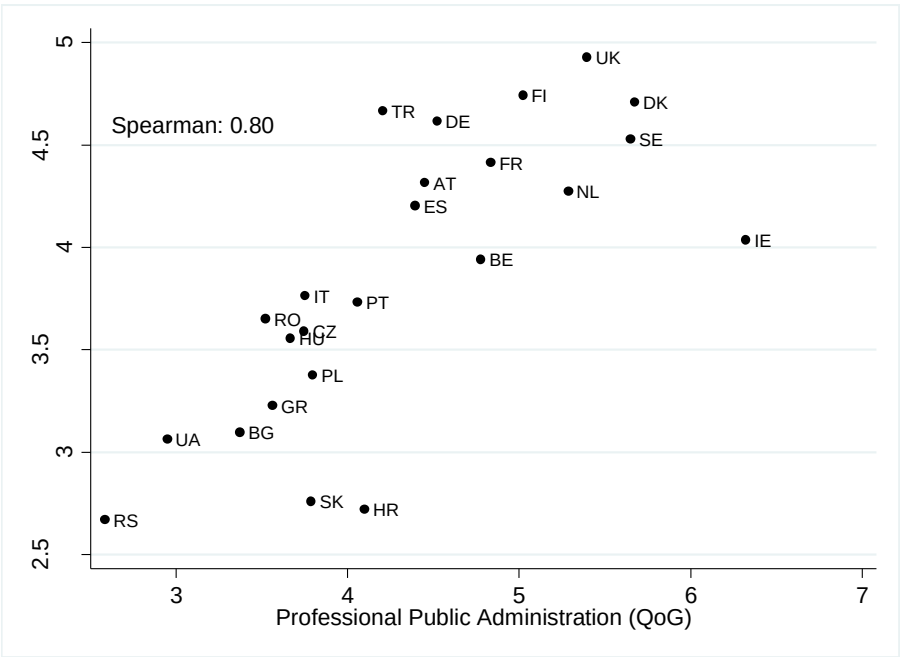


FIGURE 6, EXPERT VERSUS CITIZEN MEASURES OF MERITOCRACY (PROFESSIONALISM)



Figures 5 and 6 are graphs of our experienced-based measure with the "impartiality" and "professionalism" indices from the QoG expert survey data (Teorell, Dahlström and Dahlberg 2011) included in Table 1. We highlight the two significant factors in the two above figures, whereby we find that our citizen-based, informal measure correlated remarkably strongly with the expert-based more formal rules measures. Some outliers, such as Turkey and Croatia in Figure 5 and Ireland, Croatia and Turkey in Figure 6, warrant further investigation.

All in all, the correlations on the national level are in the expected direction, showing a high degree of both criterion (with the QoG variables) and content (with the development, equality and trust variables) validity, and therefore strengthen our confidence in the measure presented here.

The Sub-National Level

Table 2 highlights simple pairwise correlations with outside measures that we would expect to correlate with our measure of meritocracy on the sub-national level. Data availability at the sub-national level is not as good as the national level, but we start with comparing the meritocracy measure with our index of regional-level quality of government from the EQI (Charron, Dijkstra and Lapuente 2014; 2015). The data are available in two rounds, 2010 and 2013 (the latter is based on the same survey as the meritocracy measure).

TABLE 2, SUB-NATIONAL LEVEL EXTERNAL VALIDITY CHECK

	Meritocracy (citizen experience)		
	Pearson's	P-value	obs
EQI 2010	0.72	0.000	189
EQI 2013	0.60	0.000	206
Petty Corruption 2010	-0.55	0.000	180
Petty Corruption 2013	-0.56	0.000	212
Impartiality 2010	0.56	0.000	180
Impartiality 2013	0.54	0.000	206
PPP Per capita	0.47	0.000	189
Income Inequality (Theil)	0.29	0.000	187
Gender Inequality (% women in regional parliament)	0.43	0.000	182
% Poverty risk	0.21	0.006	181
Economic Satisfaction	0.35	0.000	212
Pop. Density (log)	-0.23	0.001	189
Capital region	-0.17	0.011	212

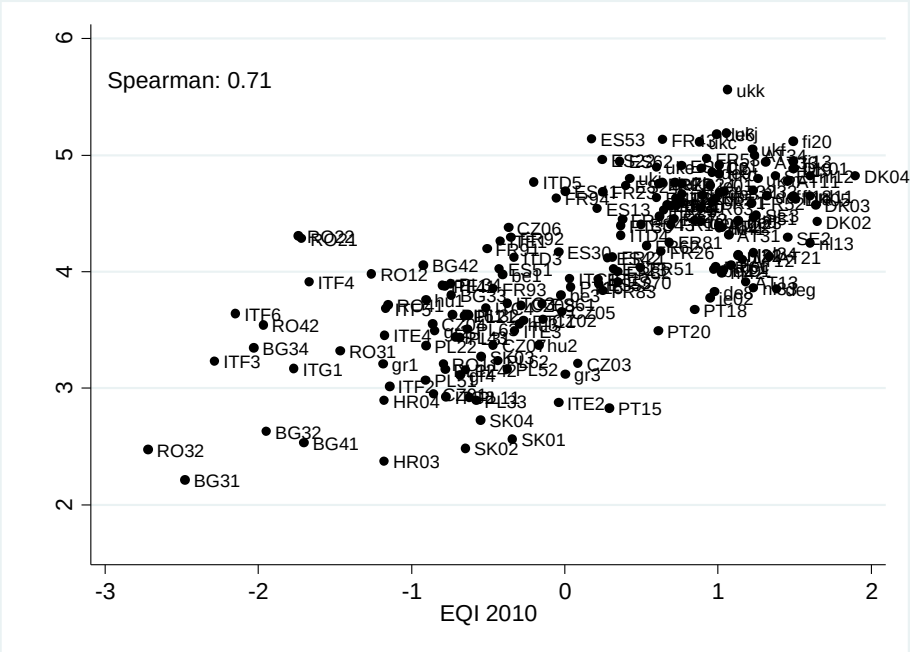
We find that the 2010 EQI correlates with our meritocracy measure at 0.72, while this is at 0.60 in 2013. The drop in the strength of the correlation is due to the inclusion of the Turkish regions, which are ranked much higher on the meritocracy measure than the EQI.

We then take two sub-components from the EQI—a measure of direct experience with corruption (reported petty corruption) and the perceived level of impartiality in several regional public services (education, health service, law enforcement). The correlations are negative as expected, relatively strong—between -0.54 and -0.56—and significant at the 99.9% level of confidence for both 2010 and 2013.

Next we look at the meritocracy measure in relation to other factors, again reported in Table 3, and find that PPP per capita, income inequality and the gender gap in political representation correlate at 0.47, 0.29 and 0.43, respectively. Capital regions are recorded as (slightly) less meritocratic on average. We also find that the aggregate levels of economic satisfaction (from the same survey) are correlated with meritocracy. Whether a region is autonomous and the size of the region (in terms of population density) is unrelated to the level of meritocracy, even when controlling for the level of PPP per capita.

In Figure 7, we highlight the bivariate relationship between our meritocracy measure and the past value of the EQI measure (from 2010), which are highly correlated, with a Spearman Rank measure of 0.71.

FIGURE 7, MERITOCRACY AND THE EQI 2010



Comment: The figure shows the correlation between the experienced-based meritocracy measure in the 2010 EQI (Charron, Lapuente and Rothstein 2013).

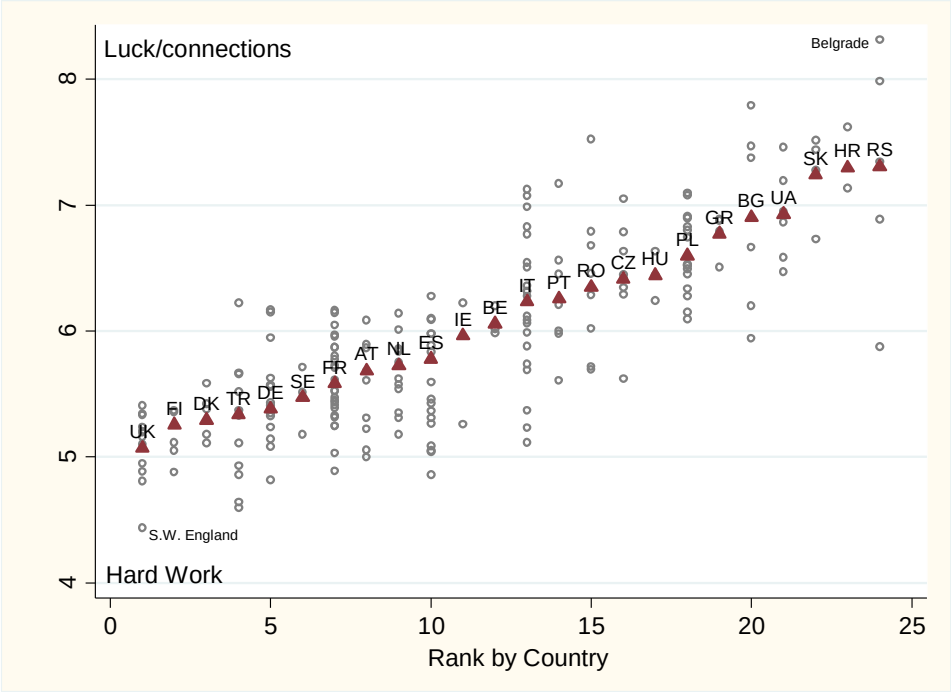
In our view, the correlations presented here demonstrate strong external validity for the measure presented. Without exception, the new measurement correlates as expected with other measures on the sub-national level.

Spatial Variations of Public Sector Meritocracy within Countries

Next we examine the level of within-country variation in public sector meritocracy. Figure 8 shows the distribution of meritocracy scores for each country in rank order (triangles) with all respective

regional estimates around the country estimates (circles). The regional data are not centered in any way, and thus we see that the country context is highly salient in the assessments of meritocracy on which we base our measure, as the regional distribution is far from random. However, it does appear that, in several cases, the regional distribution is highly relevant and worth further exploration.

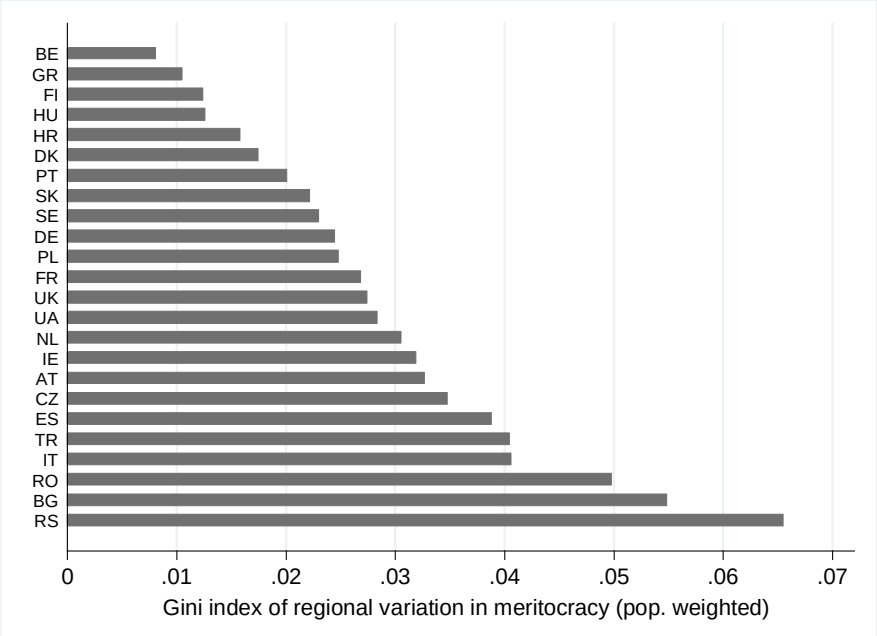
FIGURE 8, WITHIN-COUNTY VARIATION IN MERITOCRACY IN THE PUBLIC SECTOR



Comment: The figure shows the distribution of meritocracy scores for each country in rank order (triangles) with all respective regional estimates around the country estimates (circles).

To compare the extent to which regional estimates vary in a country, we calculate a population weighted regional Gini index measure for each country, in which lower scores indicate less regional variation. Figure 9 shows the results. We see that Serbia (which includes Kosovo), Bulgaria, Romania, Italy and Turkey demonstrate the widest regional variation, while regions in Belgium, Greece, Hungary, Finland and Denmark are much more evenly distributed.

FIGURE 9, POPULATION WEIGHTED WITHIN-COUNTRY VARIATION INDEX IN MERITOCRACY



Comment: The figure presents a population weighted regional Gini index measure for each country, in which lower scores indicate less regional variation. Country abbreviations are given in Appendix 1.

To further explore the validity of the measure presented here, we would like to make sure that the variation is meaningful, and not only random. The question is thus what factors could explain why citizens in certain regions of some countries assess public sector meritocracy so differently, while, in other cases, there are relatively small spatial variations, and the within-country variation in the measure presented here correlates with the explanations in an expected way. For this, we rely on several explanations from the literature on regional inequalities in wealth within countries.

Scholars of a host of disciplines have been interested in the question of regional inequality for decades, and empirical and theoretical analyses focusing on regional inequalities began many years ago (Myrdal 1957; Williamson 1865). Moreover, it should be stressed that the literature on differences in economic divergences between countries is theoretically and empirically distinct from that on regional divergences within them. While space does not permit an entirely compressive review of this literature, we summarize several relevant strands in this section.

First, building on Kuznet's (1955) curve hypothesis, the neoclassical explanations postulate that regional divergence/convergence is a natural function of a country's development. Scholarship in this model tends to stress the non-linear *bell curve* pattern of regional inequalities, highlighting factors such as competitive advantage and constant returns to scale as key mechanisms behind changes in regional inequalities. The essence of the theory here implies a non-linear inverted U-shaped relationship—that regional inequalities are small at low levels of development (all regions are more or less equally poor), then, at moderate levels of development, regional divergence occurs, while, at high levels of development, regions are more harmonized.

Second, while some studies show the benefits of increases in trade for overall growth (Dollar 1992; Frankel and Romer 1999), other scholars have posited that one consequence is that which is positively linked with regional inequality. Based on the work of Krugman (1991), several studies have developed models of the "New Economic Geography" (NEG), which elucidates the effects of how globalization and openness to trade produce tensions for regional balances, via centrifugal and centripetal forces. Thus we would expect divergences in the spatial distribution of meritocracy across regions within countries to be related to the level of economic openness at the country level.

Third, political institutions, such as the extent to which a country is decentralized, could allow for regional variations in public sector practices that would impact the level of meritocracy—although the literature and empirical evidence are largely divided on this point. For example, Prud'homme (1995) argues that the greater the level of decentralization in the public sector, the less power the central government has to harmonize levels of development among its regions via redistribution. Regions that are more endowed with human capital, natural resources or beneficial geographic positions are more likely to grow faster than less endowed regions when a country decentralizes, at least in the short to medium run. We thus look at the level of political and fiscal centralization compared with the spatial distribution of meritocracy.

Fourth, and finally, one of the cornerstone policies of the EU is regional cohesion—and thus countries and regions that have been member states for a longer period of time may have benefited from the numerous public sector investments made by the Commission to aid less developed regions in catching up. We would thus expect that time as an EU member would be negatively correlated with the level of regional variation in meritocracy.

TABLE 3, CORRELATES OF SUB-NATIONAL VARIATION IN PUBLIC SECTOR MERITOCRACY

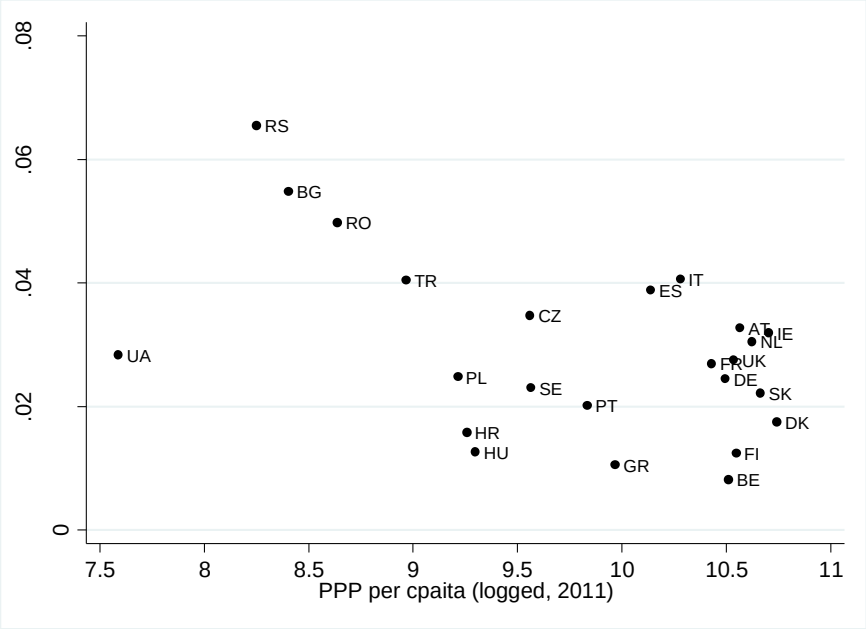
	Pearson's	P-value	obs
PPP per capita (log)	-0.49	0.010	24
Income Inequality (GINI)	0.03	0.890	24
Rule of Law (WGI)	-0.48	0.011	24
Corruption (CPI)	-0.39	0.060	24
Impartial Bureaucracy (QoG)	-0.44	0.033	24
Economic Openness (KOF)	-0.52	0.010	22
Decentralization (RAI)	-0.11	0.640	22
Yrs. EU Membership	-0.43	0.038	24
Population (log)	0.00	0.970	24
Unemployment % (WDI)	0.29	0.190	22

Comment: The Ukraine, with only six of 24 regions, is not included in the analysis.

Table 3 shows bivariate correlations based on these various hypotheses. We find that, despite a relatively small number of observations, that spatial variation in public sector meritocracy within countries is related to the level of economic development and to several governance measures, including rule of law, corruption perceptions and the overall level of impartiality in the public sector. We find also that economic openness is negatively correlated with regional inequalities, which is probably due to the fact that all countries in the sample are mid to highly developed. Thus we see only the right side of a somewhat inverted U-shaped curve, with Ukraine standing out as an outlier. Length of membership in the EU is significant at the 04% level of confidence, which possibly suggests the effect of convergence policy harmonizing regions within countries. Population, unemployment and decentralization appear to have no relation with spatial differences in public sector meritocracy.

We highlight the bivariate relationship between the regional variation in meritocracy and economic development in Figure 10.

FIGURE 10, VARIANCE IN MERITOCRACY AND PPP PER CAPITA (LOG)



Although it would be premature to draw any conclusions on the explanatory power of any of the hypotheses presented in this section, based only on bivariate correlations, we think that it is encouraging that the within-country variation seems to fit existing theories fairly well. Again this speaks for the validity of the experienced-based measure of meritocracy presented here.

Conclusion

This paper has proposed a novel measure of meritocracy in the public sector that complements existing measures (Dahlström et al. 2015; Evans and Rauch 1999; Teorell, Dahlström and Dahlberg 2011). From a recent survey (2013) of over 85,000 citizens in 24 European countries, we create two measures of the extent to which public sector employees think success in the public sector is based on merit, or on connections and luck. The first measure presented in this paper is an experience-based measure of meritocracy and, to our knowledge, the first of its kind. We also present a perception-based measure. Both these measures are contrary to previous studies available on the sub-national level, as the survey offers a sample of over 400 respondents in 212 regions (NUTS 1 and

NUTS 2 level) in the 24 countries included. Both are listed fully by region and country in Appendix 1, free for scholarly use.

The purpose of this paper has been to present and validate the data, and we think we can draw three conclusions from the analysis. First, after an external and internal validation that consistently points in the expected direction, we think that the measure presented there actually captures the de facto meritocracy in the public sector. Second, we conclude that regions within countries vary in terms of meritocracy in the public sector to a fairly large extent. Third, we conduct a very preliminary analysis of why there are regional differences, looking only at bivariate correlations. We find that, despite a relatively small number of observations, spatial variation in public sector meritocracy within countries is related to level of economic development, and to several 'governance' measures, including rule of law, corruption perceptions and the overall level of impartiality in the public sector. And, at least weakly, it is related to the length of membership in the EU, while population, unemployment and decentralization appear to have no relation with spatial differences in public sector meritocracy.

Taken together, we think that the measure presented holds water and that the regional differences merit more thorough investigations.

REFERENCES

Adcock, Robert and David Collier. 2001 "Measurement validity: A shared standard for qualitative and quantitative research." *American Political Science Review*. Vol. 95. (3): 529-546.

Charron, Nicholas, Lewis Dijkstra and Victor Lapuente. 2015. 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions'. *Social Indicators Research***.** vol 122 (2): 315-346.

Charron, Nicholas, Lewis Dijkstra & Victor Lapuente. 2014. 'Regional Governance Matters: Quality of Government within European Union Member States', *Regional Studies*, 48(1): 68-90.

Charron, Nicholas, Victor Lapuente and Bo Rothstein. 2013. *Quality of Government and Corruption from a European Perspective: A Comparative Study of Good Government in EU Regions*. Cheltenham: Edward Elgar Publishing.

Dahlström, Carl and Victor Lapuente. 2014. "Organizing Leviathan". Paper presented at the 72nd annual Midwest Political Science Association Conference, Chicago, USA, April 3-6, 2014.

Dahlström, Carl, Victor Lapuente, and Jan Teorell. 2012. "The Merit of Meritocratization Politics, Bureaucracy, and the Institutional Deterrents of Corruption". *Political Research Quarterly*, 65(3), 656-668.

Dahlström, Carl, Jan Teorell, Stefan Dahlberg, Felix Hartmann, and Annika Lindberg. 2015. *The QoG Expert Survey Dataset II*. University of Gothenburg: The Quality of Government Institute.

Evans, Peter and James Rauch. 1999. "Bureaucracy and Growth: A Cross-National Analysis of the Effects of 'Weberian' State Structures on Economic Growth." *American Sociological Review* 64(5): 748-65.

Henderson, Jeffrey, David Hulme, Hossein Jalilian, and Richard Phillips. 2007. "Bureaucratic Effects: 'Weberian' State Agenciesand Poverty Reduction". *Sociology* 41(3): 515–532.

Hooghe, Liesbet, Gary Marks and Arjan Schakel. 2010. *The Rise of Regional Authority: A Comparative Study of 42 Democracies*. London: Routledge.

Horn, Murray. 1995. *The Political Economy of Public Administration: Institutional Choice in the Public Sector*. New York: Cambridge University Press.

Krause, George, David Lewis, and James Douglas. 2006. "Political Appointments, Civil Service Systems, and Bureaucratic Competence: Organizational Balancing and Executive Branch Revenue Forecasts in the American States." *American Journal of Political Science* 50(3): 770–787.

Krugman Paul. 1991. *Geography and Trade*. Cambridge, Mass: MIT Press.

Kuznets, Simon. 1955. "Economic growth and income inequality". *American Economic Review*, 45(1): 1–28.

Lewis, David. 2008. *The Politics of Presidential Appointments: Political Control and Bureaucratic Performance*. Princeton, NJ: Princeton University Press.

Miller, Gary. 2000. "Above Politics: Credible Commitment and Efficiency in the Design of Public Agencies." *Journal of Public Administration Research and Theory* 10 (2): 289-3.

Myrdal, Gunnar. 1957. *Economic Theory and Underdeveloped Regions*. London: University Paperbacks, Methuen.

Northcote, Stafford, and Charles Trevelyan. 1853. *Report on the Organization of the Permanent Civil Service*. London: House of Commons.

Olsen, Johan. P. 2005. "Maybe it is Time to Rediscover Bureaucracy." Journal of Public Administration Research and Theory 16 (1): 1-24.

Parrado, Salvador. 2000. "The Development and Current Features of the Spanish Civil Service System". In Bekke, Hans and Frits van der Meer (eds.). Civil Service Systems in Western Europe. Bodmin, Corwall: MPG Books Ltd.

Persson, Torsten and Gidio Tabellini. 2005. *The Economic Effects of Constitutions. Munich Lectures in Economics*. Cambridge, Mass: The MIT Press.

Peters, B. Guy and Jon Pierre (eds.). 2004. *Politicization of the Civil Service in Comparative Perspective*. London: Routledge.

Prud'homme, Rémy. 1995. "The dangers of decentralization". *The World Bank Observer* 10(2): 201-220.

Rauch, James, and Peter Evans. 2000. "Bureaucratic structure and bureaucratic performance in less developed countries." *Journal of Public Economics* 75(1): 49-71.

Rokkan, Stein. 1970. *Citizens, Elections, Parties: Approaches to the Comparative Study of the Process of Development*. New York: David McKay.

Rothstein, Bo. 2011. The Quality of Government: Corruption, Social Trust and Inequality in International Perspective. Chicago: University of Chicago Press.

Silberman, Bernad. 1993. *Cages of Reason: The Rise of the Rational State in France, Japan, the United States, and Great Britain*. Chicago: Chicago University Press.

Snyder, Richard. 2001. "Scaling down: The subnational comparative method". *Studies in comparative international development* 36(1): 93-110.

Sotiropoulos, Dimitrios. 2004. "Two Faces of Politicization of the Civil Service: The Case of Contemporary Greece". In Peters, Guy and Jon Pierre (eds.). Politicization of the Civil Service in Comparative Perspective. The Quest for Control. London: Routledge.

Tabellini, Guido. 2008. "Institutions and Culture". *Journal of the European Economic Association* 6: 255–294.

Teorell, Jan, Nicholas Charron, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Petrus Sundin & Richard Svensson. 2013. The Quality of Government Dataset, version 15May13. University of Gothenburg: The Quality of Government Institute, http://www.qog.pol.gu.se.

Teorell, Jan, Carl Dahlström and Stefan Dahlberg. 2011. *The QoG Expert Survey Dataset*. University of Gothenburg: The Quality of Government Institute.

Treisman, Daniel. 2007. "What Have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research?" *Annual Review of Political Science* 10: 211–44.

Weber, Max 1978[1922]. *Economy and Society*. Berkeley: University of California Press.

Wilson, Woodrow. 1887. "Study of Administration." *Political Science Quarterly* 2: 197-222.

Williamson, Jeffrey. 1965. "Regional Inequality and the Process of National Development: A Description of the Patterns". *Economic Development and Cultural Change* 13(4): 3-45.

Appendix 1: Sample and full data by country and region

TABLE A1, COUNTRY DATA, ABBREVIATIONS AND NUTS LEVEL

country	NUTS code	regional NUTS level	Merit Experience	Merit Perceptions
Austria	AT	2	5.685	5.515
Belgium	BE	1	6.058	6.332
Bulgaria	BG	2	6.902	7.794
Croatia	HR	1	7.279	7.383
Czech Republic	CZ	2	6.410	6.746
Denmark	DK	2	5.292	5.672
Finland	FI	2	5.256	5.931
France	FR	1	5.587	5.943
Germany	DE	2	5.384	5.522
Greece	GR	1	6.772	7.688
Hungary	HU	2	6.442	6.469
Ireland	IE	2	5.963	6.021
Italy	IT	2	6.236	6.904
Netherlands	NL	2	5.727	6.101
Poland	PL	2	6.623	6.894
Portugal	PT	2	6.268	7.217
Romania	RO	2	6.348	7.091
Serbia	RS	2	7.330	7.454
Slovakia	SK	1	7.240	7.355
Spain	ES	2	5.796	6.580
Sweden	SE	2	5.471	5.704
Turkey	TR	1	5.334	5.032
Ukraine	UA	2	6.937	6.879
United Kingdom	UK	1	5.071	5.654

TABLE A2, REGIONAL DATA

NUTS code	name	Merit Experience	exp_se	Merit Perceptions	per_se
AT11	Burgenland	5.222	0.447	5.497	0.134
AT12	Niederöstrerreich	5.897	0.375	5.592	0.157
AT13	Wien	6.088	0.348	5.544	0.140
AT21	Kärnten	5.868	0.493	5.384	0.144
AT22	Steiermark	5.605	0.395	5.511	0.146
AT31	Oberösterreich	5.681	0.437	5.768	0.135
AT32	Salzburg	5.310	0.450	5.411	0.134
AT33	Tirol	5.058	0.321	5.156	0.123
AT34	Voralberg	5.000	0.470	5.129	0.121
be1	Brussels	6.023	0.292	6.287	0.153
be2	Vlaams Gewest	5.983	0.338	6.208	0.146
be3	Wallonie	6.203	0.340	6.567	0.145
BG31	Severozapaden	7.788	0.340	8.315	0.167
BG32	Severen Tsentralen	7.374	0.333	8.248	0.163
BG33	Severoiztochen	6.202	0.358	6.741	0.171
BG34	Yugoiztochen	6.654	0.305	7.296	0.150
BG41	Yugozapaden	7.469	0.444	8.087	0.147
BG42	Yuzhen Tsentralen	5.942	0.413	7.845	0.154
CZ01	Praha	7.050	0.321	6.864	0.166
CZ02	Stredni Cechy	6.413	0.304	6.562	0.178
CZ03	Jihozapad	6.787	0.343	6.920	0.162
CZ04	Severozapad	6.447	0.309	6.752	0.173
CZ05	Severovychod	6.345	0.326	6.932	0.183
CZ06	Jihovychod	5.620	0.349	6.497	0.178
CZ07	Stedni Morava	6.632	0.342	6.748	0.173
CZ08	Moravskoslezsko	6.289	0.351	6.745	0.175
de1	Baden Wuttemberg	5.083	0.278	5.652	0.148
de2	Bavaria	5.408	0.365	5.357	0.163
de3	Berlin	5.322	0.380	5.510	0.143
de4	Brandenburg	5.627	0.311	5.845	0.160
de5	Bremen	5.375	0.392	5.358	0.133
de6	Hamburg	4.821	0.386	5.407	0.135
de7	Hessen	5.236	0.324	5.418	0.141
de8	Mecklenburg-Vorpommen	6.172	0.337	5.964	0.148
de9	Lower Saxony	5.145	0.309	5.421	0.148
dea	North Rhine Westphalia	5.432	0.344	5.418	0.153
deb	Rhineland-Palatinate	5.563	0.303	5.500	0.148
dec	Saarland	5.945	0.312	5.569	0.153

ded	Saxony	5.561	0.389	5.510	0.144
dee	Saxony-Anhalt	5.569	0.418	6.161	0.143
def	Schleswig-Holstein	5.346	0.285	5.421	0.152
deg	Thuringia	6.152	0.378	6.225	0.157
DK01	Hovedstaden	5.114	0.233	5.529	0.142
DK02	Sjaelland	5.570	0.230	5.698	0.150
DK03	Syddanmark	5.424	0.262	5.739	0.148
DK04	Midtylland	5.179	0.233	5.739	0.145
DK05	Nordjylland	5.378	0.199	5.767	0.159
ES11	Galicia	5.426	0.458	6.709	0.161
ES12	Principado de Asturias	5.366	0.455	6.484	0.158
ES13	Cantabria	5.460	0.412	6.742	0.159
ES21	Pais Vasco	5.091	0.399	6.385	0.162
ES22	Comunidad Foral de Navarra	5.038	0.378	6.320	0.157
ES23	La Rioja	5.978	0.394	6.485	0.157
ES24	Aragón	5.264	0.389	6.544	0.151
ES30	Comunidad de Madrid	5.833	0.450	6.366	0.161
ES41	Castilla y León	5.308	0.401	6.454	0.167
ES42	Castilla-La Mancha	5.885	0.419	6.595	0.165
ES43	Extremadura	5.594	0.357	6.394	0.170
ES51	Cataluña	5.978	0.404	6.859	0.153
ES52	Comunidad Valenciana	6.102	0.444	6.538	0.166
ES53	Illes Balears	4.860	0.337	6.703	0.161
ES61	Andalucia	6.276	0.376	6.751	0.162
ES62	Región de Murcia	5.053	0.367	5.991	0.165
ES70	Canarias (ES)	6.091	0.419	6.393	0.172
fi13	Itä-Suomi	5.053	0.336	6.135	0.158
fi18	Etelä-Suomi	5.353	0.289	5.948	0.166
fi19	Länsi-Suomi	5.118	0.304	5.800	0.163
fi1a	Pohjois-Suomi	5.367	0.283	5.986	0.157
fi20	Åland	4.879	0.226	4.641	0.159
FR10	Ile-de-France	5.595	0.322	6.079	0.151
FR21	Champagne-Ardenne	5.872	0.304	5.895	0.154
FR22	Picardie	5.244	0.280	5.836	0.163
FR23	Haute-Normandie	5.314	0.291	5.760	0.159
FR24	Centre	5.245	0.279	5.739	0.162
FR25	Basse-Normandie	5.472	0.334	5.870	0.142
FR26	Bourgogne	5.830	0.293	5.684	0.156
FR30	Nord - Pas-de-Calais	5.436	0.279	6.089	0.151
FR41	Lorraine	5.553	0.332	5.740	0.154
FR42	Alsace	5.525	0.316	6.154	0.143

FR43	Franche-Comte	4.867	0.306	6.061	0.155
FR51	Pays de la Loire	5.968	0.339	5.856	0.143
FR52	Bretagne	5.413	0.309	5.467	0.148
FR53	Poitou-Charentes	5.028	0.312	5.842	0.158
FR61	Aquitaine	5.956	0.280	6.248	0.143
FR62	Midi-Pyrenees	5.776	0.316	5.917	0.152
FR63	Limousin	5.453	0.268	6.079	0.147
FR71	Rhone-Alpes	5.397	0.340	6.055	0.146
FR72	Auvergne	5.549	0.300	5.937	0.149
FR81	Languedoc-Roussillon	5.750	0.308	5.829	0.155
FR82	Provence-Alpes-Cote d'Azur	6.000	0.344	5.940	0.155
FR83	Corse	6.165	0.293	6.415	0.158
FR91	Guadeloupe	5.805	0.281	5.977	0.165
FR92	Martinique	5.708	0.295	5.919	0.176
FR93	Guyane	6.145	0.210	6.084	0.192
FR94	Reunion	5.371	0.283	5.746	0.173
gr1	Voreia Ellada	6.792	0.361	7.607	0.148
gr2	Kentriki Ellada	6.509	0.385	7.330	0.154
gr3	Attica	6.881	0.454	7.969	0.136
gr4	Nisia Aigaiou-Kriti	6.887	0.384	7.709	0.145
HR03	Jadranska	7.627	0.315	7.436	0.165
HR04	Kontinent	7.107	0.349	7.356	0.169
hu1	Közép-Magyarország	6.242	0.365	6.562	0.169
hu2	Dunántúl	6.630	0.330	6.503	0.174
hu3	Észak és Alföld	6.446	0.375	6.375	0.173
ie01	Border, Midland and Western	5.259	0.396	5.870	0.168
ie02	Southern and Eastern	6.224	0.390	6.076	0.163
ITC1	Piemonte	6.061	0.584	6.882	0.164
ITC2	Valle d'Acosta	5.115	0.423	6.410	0.175
ITC3	Ligura	6.273	0.530	6.789	0.172
ITC4	Lombardia	6.313	0.659	6.879	0.169
ITD1	Bolzano	5.988	0.345	5.968	0.187
ITD2	Trento	5.368	0.359	6.053	0.185
ITD3	Veneto	5.881	0.534	6.961	0.163
ITD4	Friuli-Venezia Giulia	5.689	0.434	6.552	0.172
ITD5	Emilia-Romagna	5.231	0.443	6.736	0.173
ITE1	Toscana	5.738	0.564	6.799	0.166
ITE2	Umbria	7.125	0.469	7.048	0.164
ITE3	Marche	6.510	0.485	7.213	0.159
ITE4	Lazio	6.545	0.433	7.064	0.170
ITF1	Abruzzo	6.118	0.401	7.355	0.166

ITF2	Molise	6.985	0.378	7.208	0.175
ITF3	Campania	6.768	0.363	6.768	0.183
ITF4	Puglia	6.088	0.414	7.097	0.169
ITF5	Basilicata	6.317	0.427	6.991	0.171
ITF6	Calabria	6.358	0.419	6.943	0.179
ITG1	Sicilia	6.829	0.388	7.124	0.177
ITG2	Sardegna	7.071	0.392	7.206	0.169
nl11	Groningen	5.352	0.282	5.938	0.195
nl12	Friesland (NL)	5.181	0.257	5.927	0.200
nl13	Drenthe	5.752	0.311	5.816	0.189
nl21	Overijssel	5.857	0.270	6.313	0.189
nl22	Gelderland	5.860	0.293	6.411	0.178
nl23	Flevoland	5.573	0.302	6.073	0.187
nl31	Utrecht	5.540	0.254	5.963	0.192
nl32	Noord-Holland	5.307	0.290	6.084	0.190
nl33	Zuid-Holland	6.141	0.290	6.072	0.197
nl34	Zeeland	5.839	0.297	6.242	0.186
nl41	Noord-Brabant	5.621	0.278	5.836	0.186
nl42	Limburg (NL)	6.007	0.285	6.465	0.196
PL11	Lodzkie	7.078	0.338	6.826	0.172
PL12	Mazowieckie	6.842	0.363	7.127	0.173
PL21	Malopolskie	6.378	0.300	6.629	0.180
PL22	Slaskie	6.634	0.329	7.042	0.170
PL31	Lubelskie	6.566	0.356	6.866	0.168
PL32	Podkarpackie	6.375	0.350	6.818	0.175
PL33	Swietokrzyskie	7.105	0.290	6.906	0.180
PL34	Podlaskie	6.105	0.336	6.545	0.180
PL41	Wielkopolskie	6.123	0.367	6.883	0.172
PL42	Zachodniopomorskie	6.843	0.301	6.914	0.179
PL43	Lubuskie	6.562	0.331	6.997	0.172
PL51	Dolnoslaskie	6.933	0.301	7.201	0.169
PL52	Opolskie	6.838	0.318	6.426	0.182
PL61	Kujawsko-Pomorskie	6.368	0.332	6.892	0.172
PL62	Warminsko-Mazurskie	6.766	0.366	6.457	0.178
PL63	Pomorskie	6.493	0.339	6.844	0.165
PT11	Norte	6.420	0.490	7.480	0.144
PT15	Algarve	7.171	0.315	6.686	0.152
PT16	Centro	6.129	0.368	7.340	0.142
PT17	Lisboa	6.067	0.478	7.005	0.146
PT18	Alentejo	6.328	0.367	6.707	0.153
PT20	Região Autónoma dos Açores	6.508	0.407	7.026	0.158

PT30	Região Autónoma da Madeira	5.605	0.372	7.119	0.169
RO11	Nord-Vest	6.792	0.389	7.166	0.183
RO12	Centru	6.020	0.505	7.095	0.179
RO21	Nord-Est	5.716	0.395	7.147	0.192
RO22	Sud-Est	5.692	0.455	7.192	0.174
RO31	Sud-Muntenia	6.679	0.433	6.639	0.186
RO32	Bucuresti-Ilfov	7.526	0.522	7.406	0.169
RO41	Sud-Vest Oltenia	6.283	0.356	7.156	0.190
RO42	Vest	6.459	0.451	7.056	0.177
SE1	Östra Sverige	5.181	0.232	5.740	0.127
SE2	Södra Sverige	5.706	0.206	5.621	0.126
SE3	Norra Sverige	5.517	0.220	5.822	0.143
SK01	Bratislavský kraj	7.439	0.350	7.308	0.139
SK02	Západné Slovensko	7.515	0.315	7.261	0.152
SK03	Stredné Slovensko	6.726	0.353	7.568	0.156
SK04	Východné Slovensko	7.276	0.353	7.304	0.161
ukc	Northeast England	4.885	0.383	5.282	0.161
ukd	Northwest England	5.161	0.379	5.799	0.155
uke	Yorkshire-Humber	5.102	0.322	5.706	0.167
ukf	East Midland England	4.948	0.363	6.033	0.158
ukg	West Midland England	5.410	0.363	5.503	0.153
ukh	East of England	5.236	0.373	5.405	0.163
uki	London	5.200	0.345	5.550	0.168
ukj	South East England	4.810	0.329	5.559	0.161
ukk	South West England	4.438	0.376	5.926	0.165
ukl	Wales	5.333	0.436	5.957	0.162
ukm	Scotland	5.204	0.438	5.559	0.161
ukn	N. Ireland	5.343	0.387	5.642	0.150
RS11	Belgrade	8.393	0.329	8.052	0.160
RS21	Šumadija and Western Serbia	7.367	0.374	7.581	0.166
RS22	Vojvodina	7.929	0.426	7.442	0.173
RS22	Southern and Eastern Serbia	6.939	0.400	7.867	0.159
RS23	Kosovo and Metohija	5.875	0.651	6.273	0.213
TR1	Istanbul	5.667	0.594	5.520	0.162
TR2	Bati Marmara	5.326	0.484	5.234	0.181
TR3	Ege	5.111	0.433	4.436	0.178
TR4	Dogu Marmara	5.521	0.388	4.943	0.169
TR5	Bati Anadolu	5.367	0.317	5.572	0.161
TR6	Akdeniz	4.927	0.567	5.003	0.177
TR7	Orta Anadolu	5.655	0.315	5.292	0.151
TR8	Bati Karadeniz	6.226	0.647	5.433	0.166

TR9	Dogu Karadeniz	4.643	0.505	4.194	0.154
TRA	Kuzeydogu Anadolu	4.595	0.409	4.881	0.150
TRB	Ortadogu Anadolu	4.860	0.440	5.169	0.155
TRC	Güneydogu Anadolu	5.333	0.623	4.369	0.175
UA13	Kharkov	6.677	0.354	7.132	0.198
UA15	Zakarpatt	7.480	0.307	6.881	0.189
UA21	Odessa	6.922	0.320	6.556	0.207
UA25	Crimea	6.462	0.396	6.401	0.194
UA4	Kiev	7.169	0.339	7.521	0.167
UA7	Lviv	6.892	0.340	7.255	0.194

Appendix 2: Summary statistics and data sources

varianble	Obs	Mean	St. Dev.	Min	Max	source
National level						
Meritocracy experience	24	6.14	0.70	5.07	7.33	Author
Meritocracy perceptions	24	6.49	0.78	5.03	7.79	Author
Impartiality (QoG)	24	0.27	0.64	-0.82	1.21	Dahlström et al. 2015
Profesionalism (Qog)	24	4.31	0.92	2.58	6.32	Dahlström et al. 2015
Closed (Qog)	23	5.23	0.69	3.97	6.29	Dahlström et al. 2015
Gov effectiveness	24	0.98	0.79	-0.75	2.25	World Governance Indicators
Corruption	24	0.83	1.00	-0.98	2.41	World Governance Indicators
Corruption	24	5.91	2.17	2.40	9.30	Transparancy International (CPI)
Rule of Law	24	0.94	0.83	-0.81	1.98	World Governance Indicators
Judicial Independence	24	4.38	1.46	2.44	6.49	World Economic Forum
Property rights	24	4.77	1.06	2.73	6.45	World Economic Forum
Human Development Index	24	0.84	0.06	0.73	0.90	United Nations
PPP per capita (log)	24	11.30	6.80	7.59	42.70	World Development Indicators
Gini index	24	31.57	4.30	25.00	39.00	World Development Indicators
% women in parliament	23	19.31	10.64	4.20	42.70	Teorell et al. 2013
Women eocnomic equality	24	2.25	0.85	1.00	3.00	Cingareli and Richards 2013
political trust	24	2.97	1.22	1.54	5.47	World Economic Forum
Regional Level						
Meritocracy experience	212	5.95	0.74	4.44	8.39	Author
Meritocracy perceptions	212	6.34	0.77	4.19	8.31	Author
EQI 2010	189	0.20	0.99	-2.72	1.90	Charron, Dijkstra & Lapuente (2014)
EQI 2013	206	0.06	1.05	-2.66	2.78	Charron, Dijkstra & Lapuente (2015)
Petty corruption (2010, %)	180	0.07	0.06	0.00	0.36	Charron, Dijkstra & Lapuente (2014)
Petty corruption (2013, %)	212	0.08	0.08	0.00	0.43	Charron, Dijkstra & Lapuente (2015)
Impartialty (2010, EQI)	180	0.05	1.01	-2.58	2.04	Charron, Dijkstra & Lapuente (2014)
Impartialty (2013, EQI)	206	0.00	0.87	-2.41	2.38	Charron, Dijkstra & Lapuente (2015)
PPPp.c. (2011, log)	189	10.00	0.39	8.88	10.93	Eurostat
Wage Inequality (2010)	187	0.00	0.00	0.00	0.03	Galbraith and Garcilazo (2005)
% women parl	189	27.60	8.19	10.00	44.97	Sundström (2013)
poverty risk (%)	181	16.17	6.71	4.90	38.40	Eurostat
pop. Density (logged)	189	2.50	1.65	-0.02	8.49	Eurostat
capital region	212	0.11	0.32	0.00	1.00	Author