THE QUALITY OF GOVERNMENT INSTITUTE

GÖTEBORGS UNIVERSITET

The Quality of Government Expert Survey 2020

(Wave III): Report

Marina Nistotskaya
Stefan Dahlberg
Carl Dahlström
Aksel Sundström
Sofia Axelsson
Cem Mert Dalli
Natalia Alvarado Pachon

WORKING PAPER SERIES 2021:2

QoG THE QUALITY OF GOVERNMENT INSTITUTE
Department of Political Science
University of Gothenburg
Box 711, SE 405 30 GÖTEBORG
March 2021
ISSN 1653-8919

The Quality of Government Expert Survey 2020 (Wave III): Report*

Marina Nistotskaya[†1], Stefan Dahlberg[2], Carl Dahlström[1], Aksel Sundström[1], Sofia Axelsson[1], Cem Mert Dalli [‡1], and Natalia Alvarado Pachon [§1]

[1]University of Gothenburg

[2]Mid Sweden University

March 15, 2021

*Marina Nistotskaya is the principal investigator of the research project. The authors would like to thank the experts who took part in the project for generously sharing their knowledge with the research community. We would also like to thank our colleagues at the V–Dem Institute — particularly, Brigitte Seim, Daniel Pemstein, and Johannes von Römer — and at the Department of Political Science, University of Gothenburg — particularly, Jon Polk — for their suggestions and assistance regarding the methodology of anchoring vignette and computational methods.

[†]marina.nistotskaya@gu.se

[‡]cem.mert.dalli@gu.se

[§]natalia.alvarado@gu.se

Abstract

The Quality of Government Expert Survey (QoG Expert Survey) is a research project aimed at documenting the organizational design of public bureaucracies and bureaucratic behavior in countries around the world. This report documents the design and implementation of the third wave of the QoG Expert Survey, and initial analysis of the new data. The QoG Expert Survey 2020 produced ten country-level indicators, pertaining to bureaucratic structure (meritocratic recruitment, security of tenure, closedness) and bureaucratic behavior (political interference into day-to-day bureaucratic decision-making and impartiality). The data is based on the assessments of more than 550 experts, carefully selected for their contextual subject-matter knowledge. The experts took part in the research pro bono. The main innovation of the third wave is the use of anchoring vignettes and Item-Response Theory (IRT)-based aggregation techniques to produce point estimates that account and adjust for systematic differences in expert subjective assessments and variation in expert reliability. The resulting indicators are internally coherent and also correlate well with other well-established measures for the same concepts. The strength of the association between the data from 2020 and the two previous waves of the survey suggests that the data is likely to measure the same underling phenomena, while offering enough variability over time to be used in time-series analysis.

1 Introduction

The Quality of Government (QoG) Expert Survey 2020 is the third iteration of a well-established research project by the Quality of Government Institute at the University of Gothenburg. The project is motivated by the lack of observational data pertaining to bureaucratic organization and practices (Dahlström et al., 2015). The aim of the survey is to empirically capture the organizational design of public bureaucracies and bureaucratic behavior in countries around the world.

Conceptually, the project is underpinned by two theoretical frameworks. The first — the Weberian bureaucracy framework — associates a set of organizational features of public bureaucracies with developmental outcomes (Weber, 1978). Although Max Weber laid out a theory of developmental bureaucracy more than 100 years ago, empirical research testing the effects of Weberianism only began in the 1990s with a pioneering work by Peter Evans and James Rauch (Evans & Rauch, 1999; Rauch & Evans, 2000). In their seminal effort, Evans and Rauch mapped the bureaucratic structures in 35 less developed countries with regard to several prominent features of Weberian bureaucracy: meritocratic recruitment, career security, promotion and remuneration. Meritocratic recruitment, career security and openness/closedness became the features from Weber's original characterization of developmental bureaucracy that have attracted the most attention of scholars of comparative bureaucracy (Boräng et al., 2018; Charron et al., 2017; Cingolani et al., 2015; Cornell et al., 2020; Dahlström et al., 2012; Krause et al., 2006; Lapuente & Nistotskaya, 2009; Lapuente & Suzuki, 2020; Lewis, 2007; Miller & Whitford, 2016; Nistotskaya & Cingolani, 2016; Oliveros & Schuster, 2018; Rauch, 1995; Suzuki & Hur, 2020; Ting et al., 2013).

The second theoretical framework — quality of government as impartiality — argues that impartiality in the exercise of public authority is the key behavioral attribute of public bureaucracy that leads to socially valued outcomes (Rothstein & Teorell, 2008). Empirical studies showed that impartiality of government, measured through expert assessments or citizen perceptions, is associated with increased entrepreneurship rates (Nistotskaya et al., 2015), aggregate economic growth (Ahlerup et al., 2016), innovation (Suzuki & Demircioglu, 2019), lower electorate support for populist parties (Agerberg, 2017), and other socially desirable outcomes.

The project began in 2008 with the first wave of the QoG Expert Survey (Dahlström et al., 2010), and the second survey was carried out in 2014 (Dahlström et al., 2015). In each of these waves more than 1,000 public administration scholars world-wide offered their judgements on such issues as the extent of meritocratic recruitment, career stability, internal promotion, impartiality, openness/closedness, women in public administration and many more. The QoG Expert Survey 2015 (Dahlström et al., 2015) produced 59 country-level indicators for 159 countries and became an established source of data in empirical research on institutional quality.

Expert data, however, is a subject of critique for probable measurement error due to differences in a) how experts build their opinions and how they translate them into the ordinal scales (response options) imposed by researchers (the so-called problem of differential item functioning) and b) variation in expert reliability (Marquardt & Pemstein, 2018; Marquardt et al., 2019) that may produce biased results in statistical analyses (Lindstadt et al., 2020; Marquardt, 2020). In the third wave of the survey we address and adjust for these issues by applying anchoring vignettes and computational techniques based on Item-Response Theory (IRT).

This report proceeds as follows: in section 2 we discuss the operationalization of the main concepts; in section 3 we present the survey instrument; section 4 describes the process of fielding the survey online; in section 5 we briefly describe the corps of experts and discusses whether their individual characteristics impact their assessments; section 6 describes the methodology behind our country-level point estimates; section 7 presents our data — ten country-level indicators; section 8 tests the content, convergence and construct validity of the indicators; section 10 compares data from 2020 with that of 2015; section 11 summarizes the main takeaways.

2 Concepts and their operationalization

We operationalize the concept of Weberian bureaucracy through meritocratic recruitment (and its opposite — patronage), security of tenure and closedness. Meritocratic recruitment is an organizational feature, where individual merits — such as education, knowledge, skills and job-related experience — constitute the main grounds for hiring to bureaucratic positions. Conversely, recruitment predi-

cated upon the political and/or personal connections of the applicant is opposite to merit, as embodied in such empirical phenomena as nepotism, different forms of cronyism,[1] and partisanship. Security of tenure refers to the organizational practice in which no arbitrary dismissals take place, and legal provisions specifying the circumstances and reasons for dismissal from office are observed in reality. Following the QoG Expert Survey tradition (Dahlström et al., 2010), we call this vector of the structural characteristics of public bureaucracies *Professionalism*.

In line with the literature that argues that *Closedness* is another dimension of bureaucratic organizations (Lægreid & Wise, 2007; Silberman, 1993) that is distinctive from Professionalism (Dahlström et al., 2010, 2012), we operationalize closed public bureaucracies as organizations in which

- new employees are normally hired to the lowest-level positions and vacant positions at a relatively high level of responsibility (mid-career) are opened only to the current employees of the organization;
- hiring to bureaucratic agencies involves formal civil service examination (in contrast to the hiring process in the private sector, involving a resume check and interview, but not an exam);
- human resource management is regulated by a set of laws and regulations applicable only to the public sector (including government), which is different from the country's labor code.

We expect the individual characteristics of each of the dimensions to be highly correlated: merit and tenure is expected to be positively correlated, and patronage is expected to be negatively correlated with both merit and tenure. Similarly, all three properties of the closedness dimension are expected to be positively correlated. However, Professionalism and Closedness do not need to go hand in hand in the sense that a less politicized bureaucracy should not also be a more "closed" one. We, therefore, expect the Professionalism and Closedness indices to be uncorrelated.

With regard to bureaucratic behavior, we focus on impartiality and operationalize it in line with the definition by Rothstein & Teorell (2008). They define impartiality as follows: "when deciding upon a case, a public official should not take into consideration anything about the applicant's circumstances,

[1]For example, friendism and its most recent cousin *chumocracy* (Conn et al., 2020).

which is not stipulated in policy or law beforehand" (Rothstein & Teorell, 2008, p. 170). Following a large political economy literature (Lewis, 2007; Miller, 2000; Miller & Whitford, 2016; Nistot- skaya & Cingolani, 2016), we consider day-to-day interference by individual political figures into bureaucratic decision-making the largest threat to bureaucratic impartiality. We expect our measures of Impartiality and Politicization to be strongly negatively correlated.

To capture the above postulated properties of bureaucratic structure and bureaucratic behavior, we developed a questionnaire, which is discussed next.[2]

3 Questionnaire

The questionnaire consists of three parts. Part one has eight questions, pertaining to the bureaucratic structure and bureaucratic behavior in the *central government* of the country of their selection.[3] Six of eight questions pertain to organizational design and two to behavioral attributes. All eight questions, including preambles and response options can be found in Appendix A.

Part two of the questionnaire contains anchoring vignettes — short hypothetical scenarios that experts assess, thereby providing information that allows researchers to "anchor" differing expert assessments to a more consistent scale. The QoG Expert Survey's vignettes describe hypothetical situations regarding the recruitment to public bureaucracy, career stability, interference of politicians into day-to-day bureaucratic decision-making and the extent to which bureaucrats follow the letter of the law when dealing with individual cases. There are no vignettes pertaining to the concept of openness/closedness.

The vignettes were designed using best practice, and we benefited from advice and discussions with colleagues with expertise on the matter at the Department of Political Science, University of Gothenburg, and worldwide. The vignettes mention neither specific country, nor time period, and require

[2]Since the main innovation of this survey is the use of anchoring vignettes, and given that experts take part in the survey pro bono and their time is a precious commodity, we had to limit the number of vignettes presented to experts. We, therefore, selected key properties that have generated the most scholarly interest.

[3]We focus on the central government (not on the country's public bureaucracy more generally as it was in the previous rounds) in order to achieve a higher precision of expert assessments. We found a strong association between indicators from all three waves of the survey (see Section 10 for more detail), suggesting that experts treat the central government's bureaucracy as equivalent to the country's bureaucracy.

no specific knowledge to assess the case. Experts were informed that the vignettes were designed to help the researchers to create better country-level measures, and not as a check on their expertise. Appendix A provides three vignettes on Patronage by way of example. The description of all vignettes is available upon request. Section 6 discusses in more detail the use of information from anchoring vignettes for estimating latent values.

Part three of the questionnaire contains questions regarding the personal characteristics of the experts, including their highest level of education, work place, working experience, self-assessment of their subject-matter knowledge, as well as age, gender, country of origin and country of current residence. All background questions are provided in Appendix A.

4 Fielding the survey online

The link to the pilot survey was distributed to 127 experts, randomly selected from the QoG's pool of experts, in September 2019, and by the end of October 2019 twenty-three experts had filled in the pilot questionnaire. In the pilot version all questions were vignetted, with four vignettes per Professionalism and Impartiality question, each targeting a relative distance between two specific response categories on the 5-point response scale. For the Closedness questions, one vignette per question was designed.

Nineteen responses containing answers to all the vignettes were subjected to the vignette diagnostics as per King & Wand (2007), using the software package "Anchors" in R (Wand et al., 2011). By analyzing whether and to what extent the respondents violated the predefined order of vignettes (i.e. by ranking a high-intensity vignette lower than a low-intensity vignette), we were able to assess the success of the vignettes. Our analysis of the pilot vignettes suggested that some vignettes exhibited substantial ordering inconsistency across experts, and therefore were not an effective tool in providing information about expert thresholds.[4]

Based on this analysis, together with the respondents' feedback that the survey was particularly time-

[4]This situation is not uncommon. For example, the Varieties of Democracy (V-Dem) project replaces about 20 percent of all vignettes each round (Pemstein et al., 2018, p.9).

consuming, the vignettes were edited, re-written or dropped altogether. Specifically, the vignettes for the binary questions about closedness were dropped, and for the remaining questions three vignettes per question were retained. This reduction was not merely an issue of dropping the fourth vignette; instead, the vignettes were edited or rewritten so as to more coherently reflect low-intensity, mid-intensity and high-intensity scenarios corresponding to the particular question item. This effectively reduced the total number of vignette questions from 24 to 15.

In order to increase our country coverage and make better estimates for each country, we conducted a new expert recruitment campaign. First, we published a call for experts on the Quality of Government Institute's website and its social media accounts. Second, for several countries particularly low on the number of experts, we reached out to those country experts who had already answered the survey with a request to recommend experts. Third, we continued to identify country experts by scanning relevant academic journals and the websites of targeted universities and NGOs. With these efforts, we were able to make a significant contribution to the expert pool and, ultimately, the overall response rate of the final survey.

The main survey was fielded between December 2019 and June 2020. In December 2019 the survey link was sent to more than 6,000 experts from the QoG Institute's pool of experts, of whom 996 individuals responded to at least the first part of the questionnaire, and 822 individuals completed the first and second (vignettes) parts of the survey.

Respondents could select the language of the questionnaire. The overwhelming majority of them (86 percent) selected the questionnaire in English, followed by the Spanish, Russian and French language questionnaires (7, 4 and 3 percent respectively).

Section 5 below discusses in more detail the individual characteristics of the experts that took part in the survey and whether these characteristics affected expert assessments.

5 Experts

The Quality of Government Institute at the Department of Political Science at the University of Gothenburg (Sweden) maintains a pool of country experts on bureaucratic structures and bureaucratic behavior in countries around the world. The pool was first assembled in 2008 and has been periodically updated by adding newly identified individuals. We identify experts among scholars from those with a record of peer-reviewed publication on public bureaucracy matters; professionals from donor organizations (such as USAID or SIDA, the U.S. and Swedish government agencies for development cooperation) or international organizations (such as the World Bank, IMF, Inter-American Development Bank) working on administrative reforms, international and national non-governmental organizations; and government officials with proven knowledge on their country's bureaucratic structure and behavior.

The number of experts varies from question to question: from 1 to 42 respondents. Table B.1 of the Appendix reports countries with less than three experts per country, and Table B.2 reports countries with more than three experts per country. Given the natural process of attrition,[5] not all QoG experts provided the vignette responses. Nonetheless, 822 respondents provided responses to both part one of the survey and all the vignettes. Thus, the response rate for the vignette part is 83 percent, which is on a par with the return in projects employing paid coders, such as V-Dem (Pemstein et al., 2018, p.9).

Below we provide some descriptive statistics regarding these 822 experts. The overwhelming majority of these respondents (79 percent) provided assessments for the country in which they live, while only 27 experts filled in the survey for more than one country.

Gender: 72 percent of these experts are male and 27 percent are female, with the rest selecting either "Other" or "Prefer not to say" options (N=816).

Age: the largest share of respondents (40 percent) are aged 36-50, followed by a group aged 51-65 (37 percent). Experts older than 65 years make up 17 percent of all respondents. The age group 25-35

[5] "Wearing away" or progressive loss of data in research, when respondents drop out of research for a variety of reasons.

constitutes 6 percent of all experts who completed the survey. There is only one expert younger than 25 years (N=815).

Education: the overwhelming majority (81 percent) of experts reported having a PhD degree, followed by an MA-level degree (17 percent) and the remaining 2 percent reported a BA-level degree (N=816).

Employment: nearly three quarters of all experts (71 percent) work at a public or private university. Experts employed in the third sector make up 9 percent of the sample and another 3 percent work in the private sector. Those working in the public sector constitute 6 percent, including 4 percent of those who work in the central government. Finally, 11 percent of the experts chose "Other" as their current employer (N=813).

Experience: the majority of the experts (38.5 percent) have worked in their current employment for more than 16 years. Those who have worked between 2 and 10 years make up 37 percent of all respondents. 17.5 percent have worked between 11 and 16 years, and 7 percent have worked less than 2 years (N=813).

Self-evaluation of contextual knowledge: almost 70 percent of the experts evaluated theirknowledge of bureaucratic structures and bureaucratic behavior in the central government of their chosen country as 6 or 7 on a 7-point scale. Another 20 percent self-assessed their knowledge as 5 (N=813).

5.1 Individual-level determinants of expert assessments

Before proceeding with the aggregation of expert assessments, we ran a series of regression analyses between individual expert assessments and their background characteristics. Previous research has suggested that an expert's background can influence their perception of latent traits of complex empirical phenomena (for a review see, Marquardt (2020)). This literature points to gender, age, education, employment, and self-assessment of the knowledge of the case as factors that may affect assessments in a systematic way.

In our first analysis the outcome variables are the answers that the experts gave to the questions

in part one of the questionnaire, i.e. their assessments of bureaucratic structure and bureaucratic behavior.[6] After the exclusion of missing values and "Don't know" answers from the outcomes variables, the number of observations is 780. The explanatory variables are six variables capturing expert background: gender, age, education, workplace, work experience (years), self-assessment of subject-matter knowledge. We dichotomize the workplace variable: 1 = experts with university education, 0 = else.

Table C.1 of the Appendix reports OLS regressions estimates. Overall, we find little evidence of a consistent substantial relationship between expert characteristics and their assessments. The most consistent relationship is between university employment and assessments: the coefficient for this dummy variable enters statistically significant in six out of eight assessments. In all regressions this coefficient is negatively signed: on average university staff tend to evaluate bureaucratic structure as less Weberian and bureaucratic behavior as less impartial. The university employment variable also has the largest magnitude of all: up to a third of one step of the assessment scale. We replicated this analysis, controlling for country fixed effects (Table C.2 of the Appendix) to find the results to be substantively the same. Furthermore, we replicated the above analysis using the sample of experts coming from countries for which at least three experts answered part one of the questionnaire (N of experts = 568, N of countries = 101), to find the results to be substantively the same as those reported in Table C.2.[7] In sum, expert characteristics do not seem to affect assessments in a systematic way.

6 Computing country-level estimates for latent variables

Impartiality, meritocratic recruitment, closedness are, as are many other concepts in political science, complex concepts, for which there is no clear way to quantify objectively. Researchers and practitioners alike use expert assessments to measure concepts that are difficult to measure directly.[8]

The QoG Expert Survey asks experts to quantify the extent to which a given case "embodies" such

[6] This includes the experts who did not answer the vignette part of the questionnaire.

[7] The results of this analysis are not reported in this document, but are available upon request.

[8] For example, in addition to multiple research projects that use experts to capture complex concepts, the International Country Risk Guide by the commercial PRC Group has provided the "Quality of Bureaucracy" indicator for 140 countries since 1984 as part of its political, economic, and financial risk ratings.

concepts as impartiality by selecting an answer on an ordinal scale (from low to high). The root problem with expert assessments of complex concepts is that experts are likely to recall different empirical manifestations of a phenomenon. For example, for meritocratic recruitment, one expert may think of the frequency of job advertisements in the media, while another may think of whether such job advertisements describe the educational requirements for candidates in sufficient detail; yet, the third may focus only on whether the selection procedure involves formal examination or not. In other words, different expert are likely to recall different empirical manifestations of a complex phenomenon when making their assessment of a case. Furthermore, when building their assessment on several pieces of relevant information, experts are likely to give some information more weight than others. Finally, experts need to place their assessments on ordinal scales (answer options) developed by researchers. The difference between answer options (thresholds) — such as, "Only a few of the appointments are based on merit" and "Almost no appointments are based on merit" — is open to interpretation. Experts are very likely to understand these differences idiosyncratically and apply these thresholds differently: being more or less strict. These problems, known as differential item functioning (DIF), are a major threat to the validity of expert data. DIF can be found both between experts within the same country (Marquardt et al., 2019) and across countries (Bakker et al., 2020), and could be the result of both the observable (e.g. working experience, place of employment) and unobservable individual differences between experts.

In order to account and adjust for DIF, we apply — following the literature (Bakker et al., 2020; King & Wand, 2007; Marquardt & Pemstein, 2018) — anchoring vignettes, which allow us to "anchor" expert individual interpretations of the Likert scales (answer options) to a consistent scale. Anchoring vignettes are short descriptions of imaginary scenarios that are designed in such a way as to gather information about the expert's parameters for thresholds and then to estimate these threshold parameters. We then incorporate these estimates into computations of the country-level indicators for our main concepts of interests: meritocracy, security of tenure and impartiality. To compute our country-level estimates we used information from experts who answered all three vignettes per question (with at most one ordering violation, including ties) and at a minimum three experts per country.[9]

[9]This inclusion decision yielded the following number of responses per question: proff1(Patronage) = 553, proff2(Merit) = 562, proff3(Tenure) = 542, impart1(Political Interference) = 546 and impar2(Impartiality) = 528.

Our computation approach follows the two Item-Response Theory (IRT) models of DIF by Marquardt & Pemstein (2018). While the ibeta model is built on "expert-specific intercepts, holding ordinal threshold constant across experts, the beta model is built on "expert-specific ordinal thresholds for mapping between latent and question scales" (Marquardt & Pemstein, 2018, p.432). In other words, the first model assumes that experts systematically over- or underestimate latent values. For example, there is no broad agreement between experts that bureaucracy in this country is largely filled through political/personal connections. On the other hand, the second model assumes that experts largely agree that bureaucracy in this country is based on political/personal connections, but disagree on the extent to which this is the case. The second model is "more general, since intercept DIF is a specific form of threshold-specific DIF. However, this more general parameterization demands much of the available data..." (Marquardt & Pemstein, 2018, p.432). Marquardt & Pemstein (2018) showed that the chosen IRT models perform better than other IRT models that do not account for DIF and variation in expert reliability, as well as non-IRT models such as Bayesian Aldrich-McKelvey (BAM) scaling Aldrich & McKelvey (1977).

We computed the estimates using STAN programming language in R interface (Stan, 2020). For each variable, we ran the code four chains for 20,000 iterations with 5,000 warm-ups and a thinning interval of 20.

7 Country-level estimates

We calculated both the beta and ibeta country-level point estimates of the latent concepts of interest and quantified uncertainty around these point estimates for at least 83 (*Political Interference* variable) and at most 90 (*Patronage* variable) countries. The estimates are available for almost all European countries, as well as the USA, Canada, Australia and New Zealand. But the coverage in Africa, Asia and Latin America is less full. Table D.1 of the Appendix reports the number of countries in each of the major geographic regions for which estimates are available. Figure D.1 of the Appendix presents spatial distribution of Merit and Impartiality across the globe.

Because beta and ibeta estimates are correlated at a very high level (r = .98***) and given a higher

generalizability of the beta model (Marquardt & Pemstein, 2018), we provide a set of beta country-level point estimates and measures of uncertainty. All estimates were recorded in such a way that higher values of Merit, Tenure and Impartiality stand for more meritocratic and impartial bureaucracy, and higher values of Patronage and Political Interference stand for more patrimonial and less impartial bureaucracy. Figures D.2, D.3, D.4, D.5, and D.6 in the Appendix report country-level point estimates with the associated credible intervals for all five latent concepts of interest.

In addition, Table F.4 in the Appendix reports country-level indicators for all ten variables produced by the QoG Expert Survey 2020, including the estimates for five latent variables, simple averages for three variables of the Closedness dimension of bureaucratic structure and two indices (Professionalism and Closedness), constructed with the help of Principal Component Analysis (PCA).

8 Validation

We demonstrate the validity of our measures by following the framework developed by Adcock & Collier (2001). We show: a) *content* validity by demonstrating that our measures of bureaucratic structure align with our two-dimensional conceptualization of welfare-enhancing public bureaucracy and the indicators for bureaucratic behavior align well with the concept of impartial bureaucracy; b) *convergence* validity by showing that they have the theoretically expected relationships with indicators that measure similar concepts and c) *construct* validity by showing that the measures of bureaucratic structure and bureaucratic behavior produce the theoretically expected results in regression analyses.

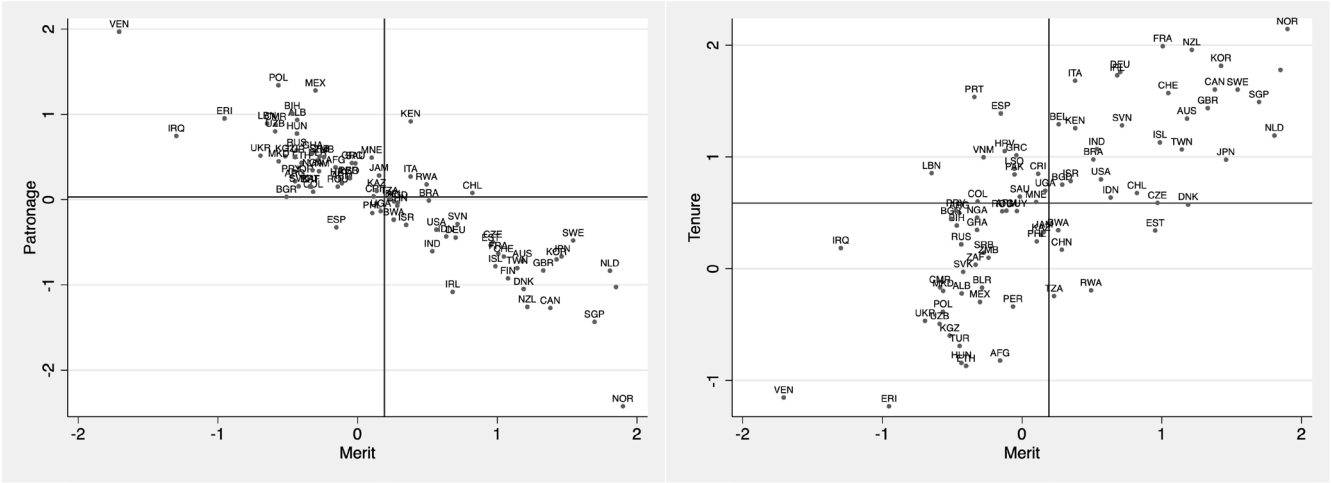
8.1 Content validity

As discussed above, we expect individual measures of Professionalism, Closedness and Impartiality to be associated to a high degree. Specifically, Merit is expected to be positively associated with Tenure, and negatively associated with Patronage. Relatedly, Patronage and Tenure are expected to be negatively correlated. We expect the individual characteristics of Closedness to be correlated to

each other, but to be uncorrelated, or at best weakly correlated, with the measures of Professionalism. Finally, two measures of bureaucratic behavior (Political interference and Impartiality) are expected to be negatively correlated with each other.

Figure 1 illustrates the relationship between different attributes of the Professionalism dimension of bureaucratic structures (with the grey lines depicting the averages). As can be seen, Merit is strongly negatively associated with Patronage (r = -.88***), and strongly positively with Tenure (r = .73***). Patronage and Tenure are also strongly negatively related (r = -.72***).

Figure 1: Association between Merit, Tenure and Patronage



Note: Left panel: scores for Merit (X axis) and Patronage (Y axis), r = -.88***, N = 82. Right panel: scores for Merit (X axis) and Tenure (Y axis), r = .73***, N = 82.

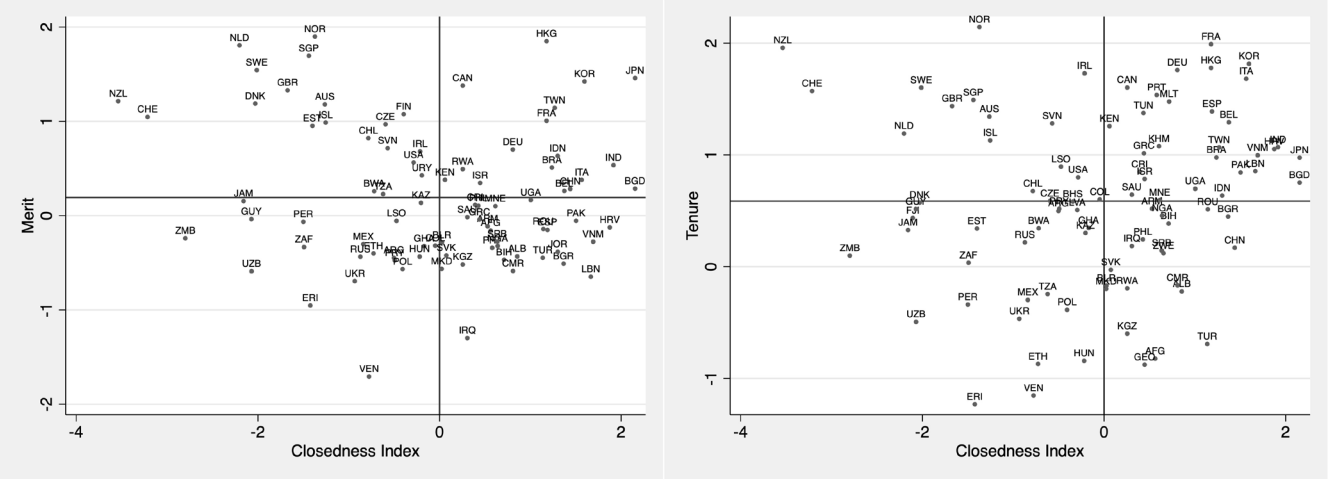
The variables pertaining to the Closedness dimension are only weakly correlated with each other,[10] but they still load on one dimension in principal component analysis, allowing us to create a new variable — Closedness Index.

As argued above, we expect Professionalism and Closedness to be orthogonal structural dimensions. Figure 2 illustrates the relationships between Merit, Tenure and Closedness Index, supporting this expectation. As can be observed, countries with high values on Merit exhibit varying levels of closedness. For example, New Zealand and Switzerland have meritocratic open bureaucracies, while Japan and South Korea have meritocratic closed bureaucracies (Figure 2, left panel). At the same time, countries with low values on Merit can have both open (Zambia) and closed (Lebanon or Vietnam) bureaucracies. A similar pattern is observed with regard to Tenure protection (Figure 2, right panel).

[10] The strongest relation is between Examination and Special Laws (r = .29**), followed by between Entry at the Lowest Level Only and Examination (r = .24**) and the weakest link is between Entry and Special Laws (r = .17*).

Figure E.1 of the Appendix depicts association between Merit and each of the indicators of Closedness.

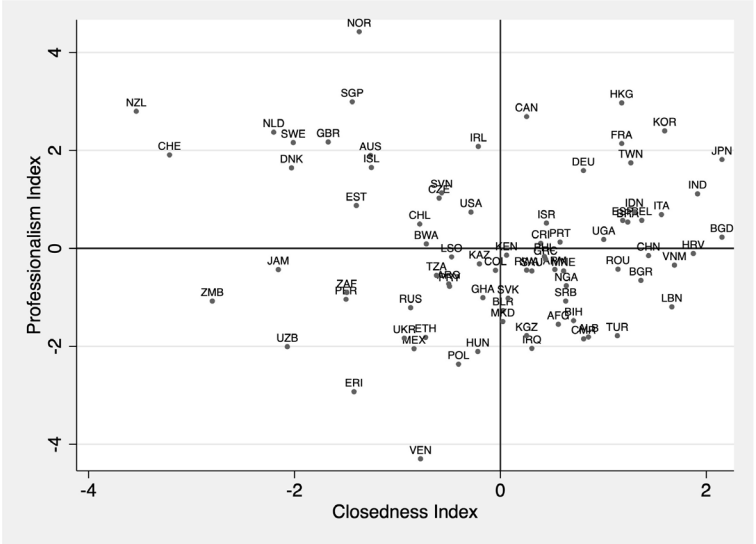
Figure 2: Association between Merit, Tenure and Closedness Index



Note: Left panel: scores for Closedness Index (X axis) and Merit (Y axis), r = -.17, N = 85. Right panel: scores for Closedness Index (X axis) and Tenure (Y axis), r = .09. N = 90.

Furthermore, Figure 3 depicts the association between the Professionalism and Closedness indices.[11] The overall pattern is of a non-linear relationship between Professionalism and Closedness: highly professional bureaucracies can be both open and closed organizations.

Figure 3: Association between Professionalism Index and Closedness Index



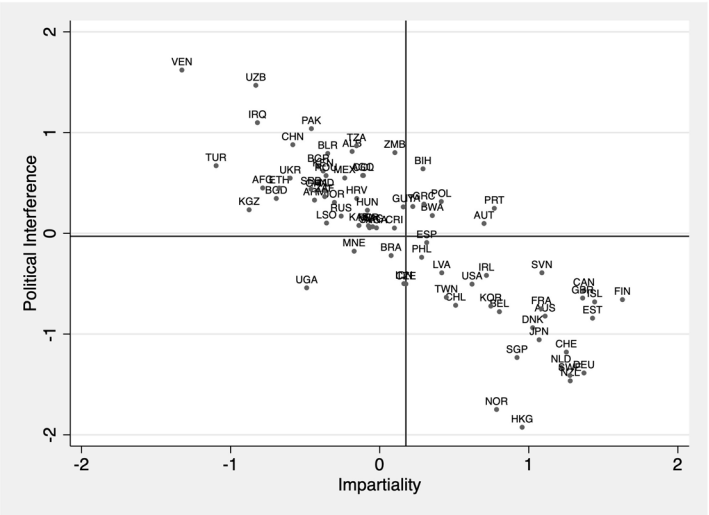
Note: Scores for Closedness Index (X axis) and Professionalism Index (Y axis). r = -.08. N = 80

Finally, we expect the two measures of bureaucratic behavior to be strongly negatively associated

[11] Professionalism Index is constructed with the help of Principal Component Analysis. Merit, Patronage and Tenure are loaded on the same dimension, which predicted scores are used as Professionalism Index.

with each other. Indeed, as Figure 4 suggests, in countries where political interference into the day-to-day bureaucratic decision-making is high, impartiality is low (e.g. Venezuela, Uzbekistan, or Iraq), and vice-versa: where political interference is low, impartiality is high (e.g. New Zealand, Sweden or Germany).

Figure 4: Association between Political Interference and Impartiality



Note: Scores for Impartiality (X axis) and Political Interference (Y axis). r = -.82***, N = 77.

Overall, the presented indicators tend to be associated with each other in the direction dictated by their conceptualizations. The measures of Professionalism exhibit very high cohesion, while indicators on Closedness are only weakly related to each other, suggesting avenues for future research, first of all, in terms of improved conceptualization. Individual measures of Closedness still load on a single factor in the PCA analysis, as do measures of Professionalism, enabling associational analysis between them. The analysis provided support for the expectation that these two structural dimensions of bureaucracies are orthogonal. The indicators of bureaucratic behavior are internally cohesive as per the concept of impartial bureaucracy.

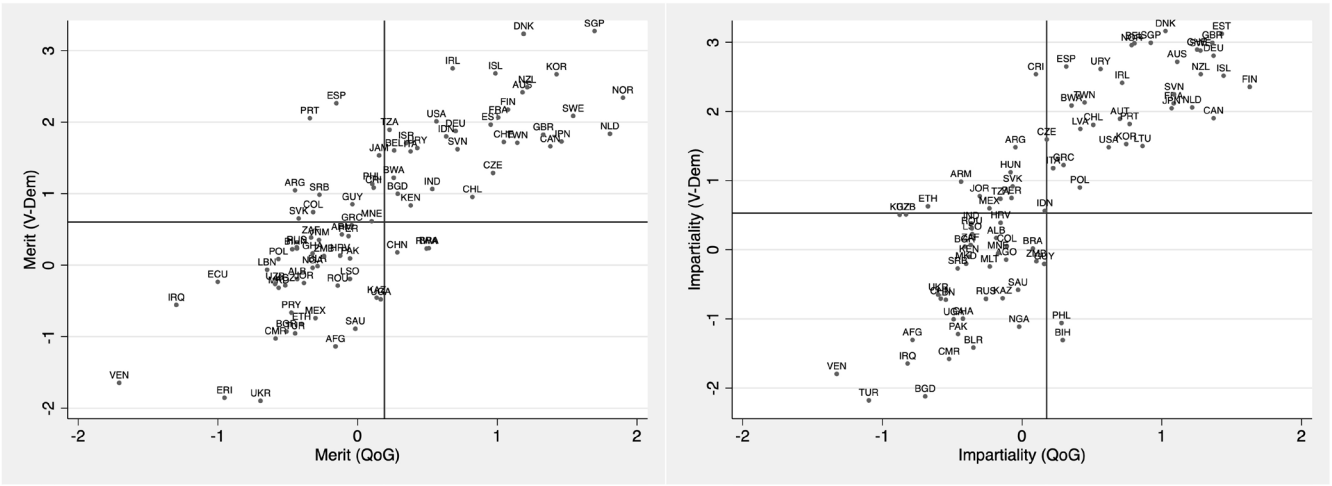
8.2 Convergence validity

To assess the convergence validity of our measures we analyze the association between our indicators and 1) V-Dem indicators of meritocratic recruitment and bureaucratic impartiality;[12] and 2) ICRG's

[12]The V-Dem meritocracy question (textit v2stcritrecadm is as follows: "To what extent are appointment decisions in the state administration based on personal and political connections, as opposed to skills and merit?". The followed up

measure of bureaucratic quality. We expect to observe strong correlations between our indicators and existing measures of meritocratic bureaucracy and impartiality, and indeed our estimates are strongly correlated with the V-Dem and ICRG measures. Specifically, the measures of the concept of meritocratic recruitment, produced by QoG and V-Dem, are strongly positively correlated (r = .80***). Similarly, the QoG and V-Dem measures of impartial bureaucracy are positively associated at an even higher level (r =.82***). Figure 5 provides a visual representation of these relationships.

Figure 5: Association between measures of Merit and Impartiality by QoG and V-Dem



Note: Left Panel: scores for Merit QoG (X axis) and Merit V-Dem (Y axis). r = -.80***, N = 85. Right panel: score for Impartiality QoG (X axis) and Impartiality V-Dem (Y axis), r = .83***, N = 83.

Merit (QoG) is also positively associated with the ICRG's indicator "Bureaucratic Quality" (r =.74***), while Patronage is associated with the same indicator negatively (r = -.68***). Similarly, the ICRG measure is strongly positively associated with our indicators of Impartiality (r = .81***). Although, the precise meaning of the ICRG's concept of bureaucratic quality has not been disclosed by its commercial owners, the overall institutional qualities valued by entrepreneurs and investors, such as stability, predictability and the absence of threat of expropriation (Henisz, 2000; Jensen, 2008; Knott & Miller, 2006; North & Weingast, 1989), are also those that are associated with meritocratic impartial bureaucracy (Miller, 2000; Nistotskaya & Cingolani, 2016). Therefore, we interpret these strong correlations as supporting convergence validity of our measures. Figure E.2 in the Appendix

specification clarifies: "Appointment decisions include hiring, firing and promotion in the state administration. Note that the question refers to the typical de facto (rather than de jure) situation obtaining in the state administration, excluding the armed forces. If there are large differences between different branches of the state administration or between top and lower level state administrators please try to consider the average when answering the question. The Impartiality question (*2clrspct*) is "Are public officials rigorous and impartial in the performance of their duties?". The specification is: "This question focuses on the extent to which public officials generally abide by the law and treat like cases alike, or conversely, the extent to which public administration is characterized by arbitrariness and biases (i.e., nepotism, cronyism, or discrimination). The question covers the public officials that handle the cases of ordinary people. If no functioning public administration exists, the lowest score (0) applies". (Coppedge et al., 2020, p. 164, 178)

illustrates the relationship between Merit, Impartiality and ICRG Bureaucratic Quality.

In sum, our indicators and the measures originated within both the research and practitioners' worlds, show a high degree of convergence.

8.3 Construct validity

Construct validation strategies involve demonstrating that the measure in question yields theoretically expected results. Following two influential studies about the link between merit-based public bureaucracy and corruption (Dahlström et al., 2012; Evans & Rauch, 1999), we leverage our measure of meritocratic bureaucracy (Merit) against the World Bank's Control of corruption, controlling for levels of economic development (logGDPpc) and democracy (V-Dem's polyarchy). Figure 6 shows a scatterplot between Merit and Control of Corruption after netting out the influence of the control variables.

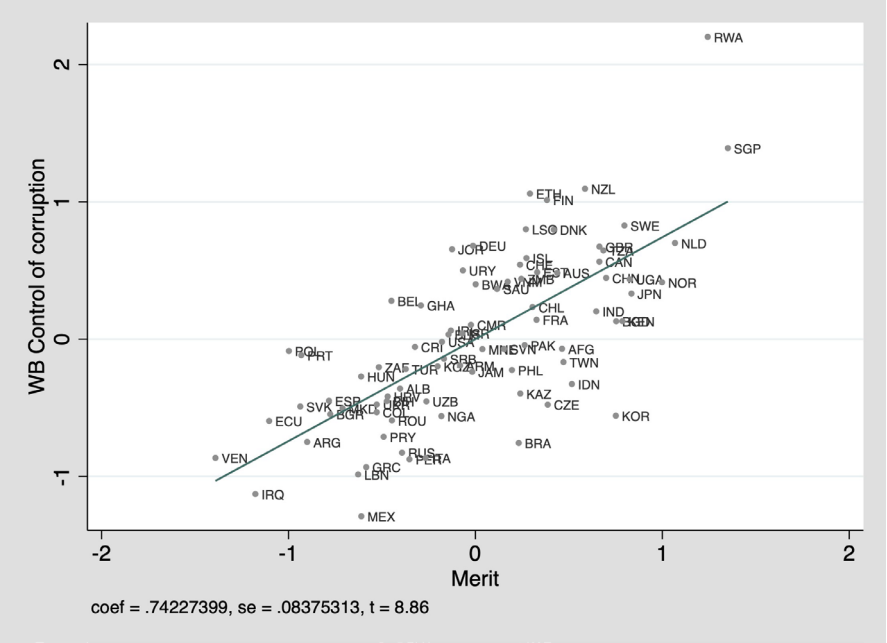
The coefficient for Merit is statistically significant and is signed as expected, suggesting that higher Merit is associated with lower corruption (higher Control of corruption). The size of Merit's coefficient is non-trivial: one unit increase in Merit corresponds to almost .7 unit increase in Control of corruption.[13] We replicate the analysis, using V-Dem's measure of corruption (Political Corruption Index) and Freedom House's measure of democracy to find the results to be substantially the same (not reported).

In another analysis, following Nistotskaya & Cingolani (2016), we leverage Merit against the World Bank's measures of Regulatory Quality and Ease of Doing Business, controlling for the levels of economic development and democracy. Figure 7 shows a scatter plot between Merit and Regulatory quality after netting out the influence of the controls.

The coefficient for Merit is statistically significant and is signed as expected, suggesting that higher Merit is associated with better regulatory quality. We re-run the analysis, using the World Bank's Ease of Doing Business, to find Merit to be strongly associated with better government regulation regarding entrepreneurship (see Figure E.3 in the Appendix).

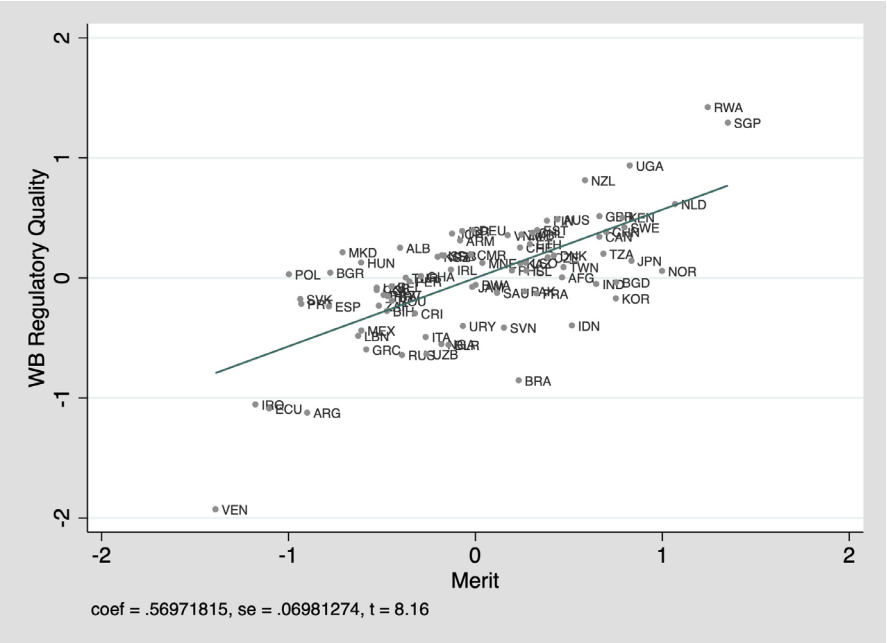
[13]The range of Control of corruption in our sample is [-1.8; 2.2].

Figure 6: Partial Regression Plot: Merit and Control of Corruption



Note: Data for Control of corruption and Merit are for the year 2019; democracy and logGDPpc are for the year 2018, N = 82.

Figure 7: Partial Regression Plot: Merit and Regulatory Quality

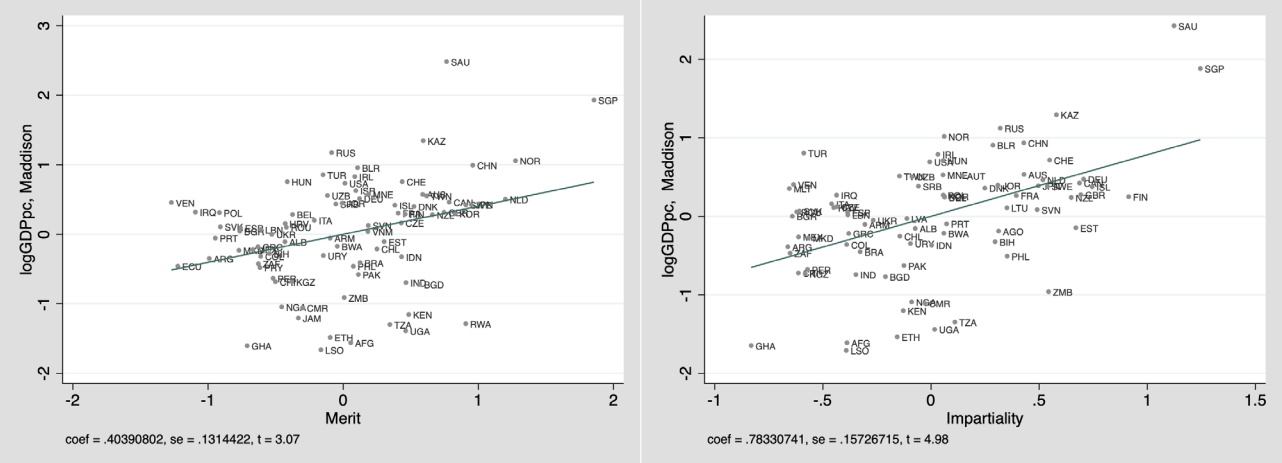


Note: Data for Regulatory Quality and Merit are for the year 2019; democracy and logGDPpc are for the year 2018, N = 83.

Finally, following the influential publication by Rauch & Evans (2000) and its more recent edition by Cornell et al. (2020), we examined the relationship between Merit and Impartiality on the one hand,

and the level of economic development (measured through logGDPpc) on the other. Figure 8 shows scatterplots between Merit and GDPpc (Left panel) and Impartiality and GDPpc (right panel) after netting out the impact of the level of democracy in 2018. The coefficients for Merit and Impartiality are statistically significant and are signed as expected.

Figure 8: Partial Regression Plot: Merit, Impartiality and GDPpc



Note: Left Panel: Merit and (log) GDPpc (year = 2019), Right Panel: Impartiality and (log) GDPpc (year = 2019), control variable is Democracy (year = 2018).

Overall, our construct validity analyses suggest that the examined measures yield theoretically expected results.[14] Across all types of validation exercises — content, convergence and construct — the QoG Expert Survey data performs consistently, thereby lending confidence to users in the validity of the QoG Expert Survey data.

9 Point estimates vs simple averages

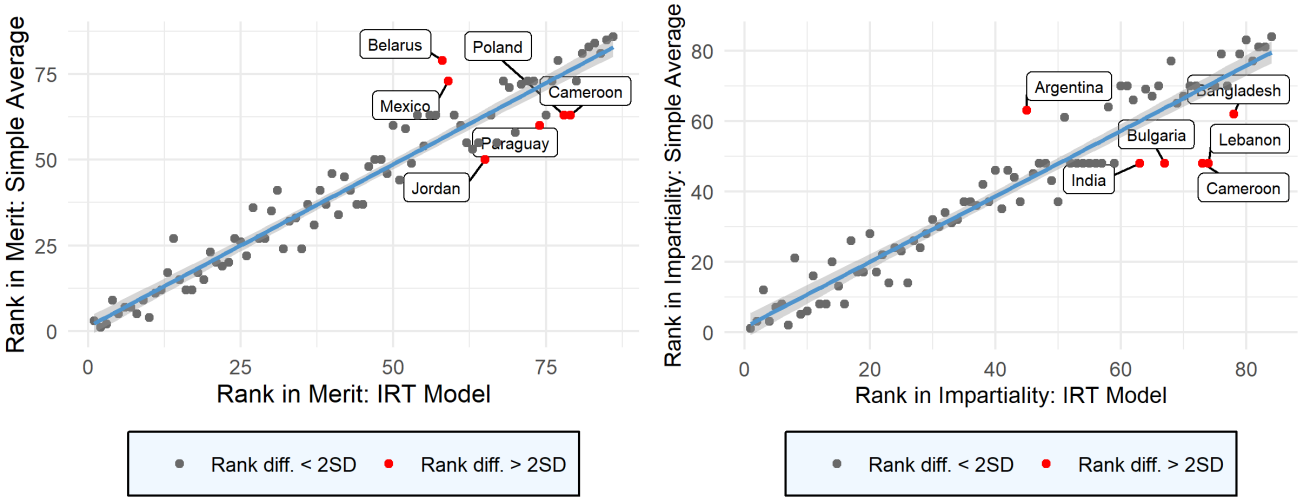
Are there any meaningful differences between the produced IRT estimated and simple averages? The correlations between the two are very high (Pearson's r is at least 0.96***), but we explore this further by creating two rank ordered variables, based on the values in the raw data and IRT estimates. For example, for Merit we created two new variables, running from 1 to 86, where 1 stands for the highest and 86 for the lowest values on simple averages and IRT estimates. We, then, plot these new variables

[14]Given that at the moment of this report's preparation the data for many dependent variables was available only for the year 2019, our construct validation exercise is somewhat limited and further analysis should be carried out at a later point once the data become available.

against each other.

Figure 9 displays these comparisons for Merit and Impartiality, depicting in red countries that differ in rank ordering between the two measures by at least two standard deviations. As can be observed, for the overwhelming majority of the countries rank ordering does not exceed two standard deviations. The divergence from the "perfect" fit occurs in the region with the observation scoring lower on merit and impartiality (lower ranking countries).

Figure 9: Simple Averages and IRT Estimates for Merit and Impartiality: Comparison of Rank Orders



Note: Values on the X axis are rank orders based on IRT estimates. Values on the Y axis are rank orders based on simple averages. Left panel: rank order for Merit (lower value - higher rank). Right panel: rank order for Impartiality (lower value - higher rank.

Our analysis suggests that although there are some differences in the rank ordering of the countries across the two scales, for the overwhelming majority of the observations, these differences are not large. This is in line with previous research that points out that well-run research projects generate robust raw expert-coded data (Bakker et al., 2020; Marquardt, 2020).

10 QoG Expert Surveys 2011, 2015 and 2020: Comparison

In this section we briefly consider data from the three waves of the QoG Expert Survey: 2011,[15] 2015 and 2020. Table F.1 in the Appendix reports the questions from the QoG Expert Surveys 2011, 2015 and 2020, representing the concepts of interest. The wording of the questions is either identical (for

[15]The survey was conducted over three years, between 2008 and 2011.

example, for the concepts of merit or impartiality) or substantively similar. The only exception is the question for Tenure, with the question from 2011 and 2015 only indirectly tapping into the concept of security of tenure as freedom from arbitrary dismissal.

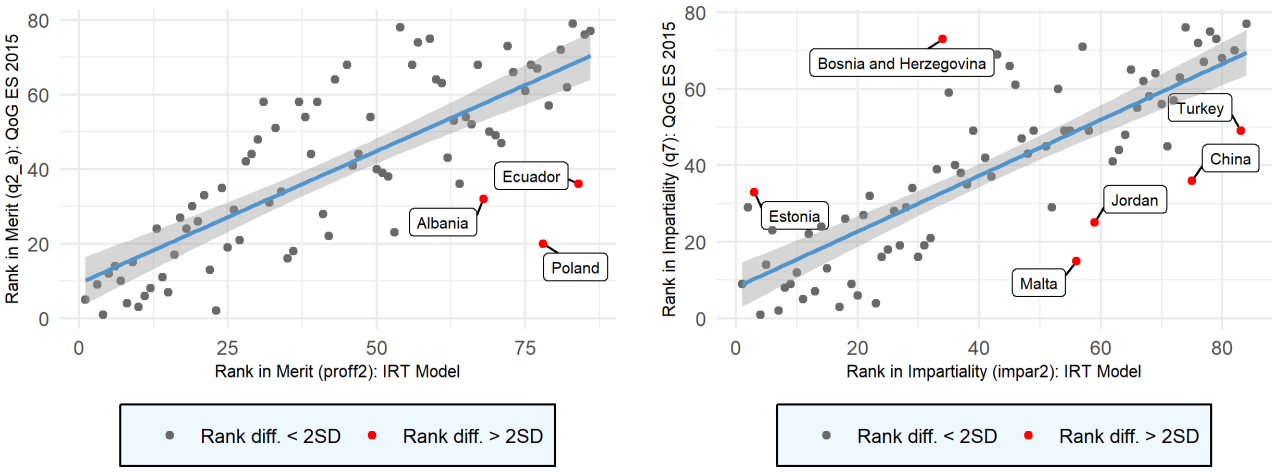
Table F.2 reports Pearson's correlation coefficients for the Professionalism and Impartiality traits, measured as simple averages in 2011, 2015 and as IRT-based estimates in 2020. As one can see, the strength of the correlation is high for all pairs of indicators (r = [.69; .81] at the 99 percent level), except for Tenure, for which Pearson's r ranges between .3*** and .7***.

Table F.3 reports Pearson's correlation coefficients for the Closedness traits, measured as simple averages in all three waves. While the strength of the association over time for the *Examination* variable is high (r = [.66; .72] at the 99 percent level), the *Special laws* variable is moderately associated over time (r = [.46; .60] at the 99 percent level). The data for the *Entry level* variable is only availabe for the second and third waves, and the association over time is moderate (r = .49***).

We further explore the alignment of the 2015 and 2020 data by creating a set of rank ordered variables, based on the values of the same variables from 2015 and 2020, and then plotting these new variables against each other. Figure 10 displays these comparisons for Merit and Impartiality, depicting (in red) countries that differ in rank ordering between the two measures by at least two standard deviations. As can be observed, for the overwhelming majority of the countries rank ordering does not exceed two standard deviations. However, Albania, Ecuador and Poland dropped in the ranking of Merit (left panel) by more than two standard deviations. When it comes to Impartiality (right panel), while four countries considerably (that is, by more than two standard deviations) slipped down in the ranking (China, Jordan, Malta and Turkey), two countries considerably improved their standing (Bosnia-Herzegovina and Estonia). Figure F.1 of the Appendix depicts the relationship between 2015 and 2020 scores for Patronage.

To gain greater confidence in the validity of the data, researchers may want to assess the alignment of these changes in the rankings with the true state of affairs through existing or original case studies. For example, there exists evidence of institutional de-meritocratization of the Polish bureaucracy after the 2015 presidential and parliamentary elections, when, by the end of 2015, many bureaucratic posts were already made legally exempt from the procedure of "open and competitive recruitment" (Zybała

Figure 10: QoG 2015 and 2020: Comparison of Rank Orders of Merit and Impartiality



Note: Values on the X axis are from 2020. Values on the Y axis are from 2015. Left panel: rank order for Merit (lower value - higher rank). Right panel: rank order for Impartiality (lower value - higher rank).

et al., 2017, p.96).

In summation, the strength of the association between the indicators of Professionalism (except for Tenure) and Impartiality across the three waves suggests that the data is likely to measure the same underlying phenomena, yet offering enough variability over time to use these data in time-series analysis. The areas of low over-time correlation — among the measures of Closedness and Tenure — may require a more focused validity evaluation exercise.

11 Conclusion

This report documents the design and implementation of the third wave of the QoG Expert Survey, and initial analysis of the new data. The QoG Expert Survey is concerned with generating reputable data on bureaucratic structures and bureaucratic behavior in countries around the world.

Beset with the critique that expert estimates may be systematically biased, we decided to employ a series of anchoring vignettes — a methodological device used to address the problem of differential item functioning that is at the heart of systematic differences in expert subjective assessments. While well-functioning anchoring vignettes is a key element of the success of this approach, it is impossible to identify high-performing vignettes before presenting them to experts. Our vignette analysis

suggested that some vignettes in the main survey continued to exhibit ordering inconsistency across experts, which led to the exclusion of wrongly ranked vignettes from the calculation of the estimates. In the next iteration of the survey we will replace the under-performing vignettes with new ones.

Using the information from the vignettes, we built country-level point estimates for five important concepts: Patronage, Merit, Tenure, Political Interference and Impartiality. The 2020 edition of the survey collected data on the closedness of public bureaucracies, generating three indicators capturing different aspects of the Closedness dimension of bureaucratic structure (but without vignettes). In addition to these, two indices — Professionalism and Closedness — were constructed, using Principal Component Analysis.

We conducted several thorough exercises to assess the validity of our data. Content validation showed that the individual elements of the Professionalism dimension of bureaucratic structure is internally cohesive, but the Closedness dimension is less so, pointing to the need for a careful application of these data in empirical research. The two indicators of bureaucratic behavior (Political Interference and Impartiality) showed high internal cohesion. The convergence validity exercise demonstrated that our country-level estimates for Merit and Impartiality are highly correlated with similar measures generated by the academic and business communities. Finally, the construct validation analyses showed that the measures in question yield the theoretically expected results.

We checked the correspondence between the simple averages and point estimates, which demonstrated that for the overwhelming majority of observations (countries), the data is more similar than different, lending confidence to users of the raw QoG Expert Survey data.

We also assessed the correspondence between data from all three waves of the QoG Expert Sur- vey. The revealed strength of the association between the indicators of Professionalism (exclusive of Tenure) and Impartiality suggests that the data is likely to measure the same underling phenomena, while offering enough variability over time to use these data in time-series analysis.

References

Adcock, R. & Collier, D. (2001). Measurement validity: A shared standard for qualitative and quantitative research. *American political science review*, (pp. 529–546).

Agerberg, M. (2017). Failed expectations: Quality of government and support for populist parties in europe. *European Journal of Political Research*, 56(3), 578–600.

Ahlerup, P., Baskaran, T., & Bigsten, A. (2016). Government impartiality and sustained growth in sub-saharan africa. *World Development*, 83, 54–69.

Aldrich, J. H. & McKelvey, R. D. (1977). A method of scaling with applications to the 1968 and 1972 presidential elections. *The American Political Science Review*, 71(1), 111–130.

Bakker, R., Jolly, S., & Polk, J. (2020). Analyzing the cross-national comparability of party positions on the socio-cultural and eu dimensions in europe. *Political Science Research and Methods*.

Boräng, F., Cornell, A., Grimes, M., & Schuster, C. (2018). Cooking the books: Bureaucratic politicization and policy knowledge. *Governance*, 31(1), 7–26.

Charron, N., Dahlström, C., Fazekas, M., & Lapuente, V. (2017). Careers, connections, and corruption risks: Investigating the impact of bureaucratic meritocracy on public procurement processes. *The Journal of Politics*, 79(1), 89–104.

Cingolani, L., Thomsson, K., & De Crombrugghe, D. (2015). Minding weber more than ever? the impacts of state capacity and bureaucratic autonomy on development goals. *World Development*, 72, 191–207.

Conn, D., Pegg, D., Evans, R., Garside, J., & Lawrence, F. (2020). Chumocracy: How covid revealed the new shape of the tory establishment. *The Guardian*, November, 15.

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., Bernhard, M., Fish, M. S., Glynn, A., Hicken, A., et al. (2020). V-dem codebook v10.

Cornell, A., Knutsen, C. H., & Teorell, J. (2020). Bureaucracy and growth. *Comparative Political Studies*, 53(14), 2246–2282.

Dahlberg, S., Dahlström, C., Sundin, P., & Teorell (2013). The qog expert survey 2008-2011: Report. *The Quality of Government Institute Working Paper Series*, 15.

Dahlström, C., Lapuente, V., & Teorell, J. (2010). Dimensions of bureaucracy. a cross-national dataset on the structure and behavior of public administration. *The Quality of Government Institute Working Paper Series*, 13.

Dahlström, C., Lapuente, V., & Teorell, J. (2012). The merit of meritocratization: Politics, bureaucracy, and the institutional deterrents of corruption. *Political Research Quarterly*, 65(3), 656–668.

Dahlström, C., Teorell, J., Dahlberg, S., Hartmann, F., Lindberg, A., & Nistotskaya, M. (2015). The qog expert survey dataset ii. *University of Gothenburg: The Quality of Government Institute*.

Evans, P. & Rauch, J. E. (1999). Bureaucracy and growth: A cross-national analysis of the effects of" weberian" state structures on economic growth. *American sociological review*, (pp. 748–765).

Henisz, W. J. (2000). The institutional environment for economic growth. *Economics & Politics*, 12(1), 1–31.

Jensen, N. (2008). Political risk, democratic institutions, and foreign direct investment. *The Journal of Politics*, 70(4), 1040–1052.

King, G. & Wand, J. (2007). Comparing incomparable survey responses: Evaluating and selecting anchoring vignettes. *Political Analysis*, 15(1), 46–66.

Knott, J. H. & Miller, G. J. (2006). Social welfare, corruption and credibility: Public management's role in economic development. *Public Management Review*, 8(2), 227–252.

Krause, G. A., Lewis, D. E., & Douglas, J. W. (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.

Lapuente, V. & Nistotskaya, M. (2009). To the short-sighted victor belong the spoils: Politics and merit adoption in comparative perspective. *Governance*, 22(3), 431–458.

Lapuente, V. & Suzuki, K. (2020). Politicization, bureaucratic legalism, and innovative attitudes in the public sector. *Public administration review*, 80(3), 454–467.

Lewis, D. E. (2007). Testing pendleton's premise: Do political appointees make worse bureaucrats? *The Journal of Politics*, 69(4), 1073–1088.

Lindstadt, R., Proksch, S.-O., & Slapin, J. B. (2020). When experts disagree: Response aggregation and its consequences in expert surveys. *Political Science Research and Methods*, 8(3), 580–588.

Lægreid, P. & Wise, L. R. (2007). Reforming human resource management in civil service systems: Recruitment, mobility, and representativeness. In *The civil service in the 21st century* (pp. 169–182). Springer.

Marquardt, K. L. (2020). How and how much does expert error matter? implications for quantitative peace research. *Journal of Peace Research*, 57(6),692–700.

Marquardt, K. L. & Pemstein, D. (2018). Irt models for expert-coded panel data. *Political Analysis*, 26(4), 431–456.

Marquardt, K. L., Pemstein, D., Seim, B., & Wang, Y.-t. (2019). What makes experts reliable? expert reliability and the estimation of latent traits. *Research & Politics*, 6(4), 2053168019879561.

Miller, G. (2000). Above politics: Credible commitment and efficiency in the design of public agencies. *Journal of Public Administration Research and Theory*, 10(2), 289–328.

Miller, G. J. & Whitford, A. B. (2016). *Above politics*. Cambridge University Press.

Nistotskaya, M., Charron, N., & Lapuente, V. (2015). The wealth of regions: quality of government and smes in 172 european regions. *Environment and Planning C: Government and Policy*, 33(5), 1125–1155.

Nistotskaya, M. & Cingolani, L. (2016). Bureaucratic structure, regulatory quality, and entrepreneurship in a comparative perspective: Cross-sectional and panel data evidence. *Journal of Public Administration Research and Theory*, 26(3), 519–534.

North, D. C. & Weingast, B. R. (1989). Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century england. *Journal of economic history*, (pp. 803–832).

Oliveros, V. & Schuster, C. (2018). Merit, tenure, and bureaucratic behavior: Evidence from a conjoint experiment in the dominican republic. *Comparative Political Studies*, 51(6), 759–792.

Pemstein, D., Marquardt, K. L., Tzelgov, E., Wang, Y.-t., Krusell, J., & Miri, F. (2018). The v-dem measurement model: latent variable analysis for cross-national and cross-temporal expert-coded data. *V-Dem Working Paper*, 21.

Rauch, J. E. (1995). Bureaucracy, infrastructure, and economic growth: Evidence from us cities during the progressive era. *The American Economic Review*, (pp. 968–979).

Rauch, J. E. & Evans, P. B. (2000). Bureaucratic structure and bureaucratic performance in less developed countries. *Journal of public economics*, 75(1), 49–71.

Rothstein, B. O. & Teorell, J. A. (2008). What is quality of government? a theory of impartial government institutions. *Governance*, 21(2), 165–190.

Silberman, B. S. (1993). *Cages of reason: the rise of the rational state in France, Japan, the United States, and Great Britain*. University of Chicago Press.

Stan (2020). Rstan: the r interface to stan. *R package version 2.21.0*.

Suzuki, K. & Demircioglu, M. A. (2019). The association between administrative characteristics and national level innovative activity: Findings from a cross-national study. *Public Performance & Management Review*, 42(4), 755–782.

Suzuki, K. & Hur, H. (2020). Bureaucratic structures and organizational commitment: findings from a comparative study of 20 european countries. *Public Management Review*, 22(6), 877–907.

Ting, M. M., Snyder Jr, J. M., Hirano, S., & Folke, O. (2013). Elections and reform: The adoption of civil service systems in the us states. *Journal of Theoretical Politics*, 25(3), 363–387.

Wand, J., King, G., & Lau, O. (2011). Anchors: Software for anchoring vignettes data. *Journal of Statistical Software*, 42(3), 1–25.

Weber, M. (1978). Economy and society.

Zybała, A. et al. (2017). Public administration reforms in poland. In *25 Years of Public Administration Developments and Reforms in V4 region* (pp. 85–116). Nakladatelstv´ı Masarykovy univerzity.

Appendices

A Questionnaire

A.1 Part One

Bureaucratic structure: Professionalism

Patronage

Preamble: We are interested in how individuals are appointed to bureaucratic positions in the central government in the country you have selected. Specifically, we are interested in whether or not the individual's political and/or personal connections constitute the main grounds for the hiring. We are interested in how things work in reality (de facto), not how they look on paper (de jure).

Q1: In your chosen country, to what extent are appointments to bureaucratic positions in the central government based on the political and/or personal connections of the applicant?

Answer options:

- Almost all appointments are based on political and/or personal connections. (5)
- Most of the appointments are based on political and/or personal connections, and only a few of the positions are filled meritocratically. (4)
- About half of the appointments are based on political and/or personal connections. (3)
- Only a few of the appointments are based on political and/or personal connections, and most positions are filled meritocratically. (2)
- Almost no appointments are based on political and/or personal connections. (1)
- Don't know. (99)

Merit

Preamble Still on the subject of appointments we are interested in whether or not the individuals' merits – such as education, knowledge, skills and job-related experience – constitute the main grounds for the hiring to bureaucratic positions in the central government of the country you selected.

Please note that for some bureaucratic positions, hiring based on political considerations is legally permissible. Such positions may include heads of departments within ministries and agencies or staff supporting the work of ministers (for example, advisers and aids). Please disregard such positions when considering your answer to this question.

We are interested in how things work in reality (de facto), not how they look on paper (de jure).

Q2: In your chosen country, to what extent are appointments to bureaucratic positions in the central government based on individuals' merits – such as knowledge, skills and job-related experience?

Answer options:[16]

- Almost all appointments are based on merit. (1)
- Most of the appointments are based on merit.(2)
- About half of the appointments are based on merit. (3)
- Only a few of the appointments are based on merit. (4)
- Almost no appointments are based on merit. (5)
- Don't know. (99)

Tenure

Preamble: We are interested in whether or not bureaucrats working in ministries and other bureaucratic agencies of the central government of the country you have selected enjoy security of tenure.

By *security of tenure* we mean legal guarantee that an office-holder cannot be fired from office except for actions clearly specified in the law, such as, for example, bribery or other misconduct. By *enjoy security of tenure* we mean that the legal provisions specifying circumstances and reasons for dismissal from office are observed in reality, and no arbitrary dismissals take place.

Q3: In your chosen country, to what extent do bureaucrats working in ministries and other bureaucratic agencies of the central government enjoy security of tenure?

Answer options:[17]

- Public officials enjoy very strong security of tenure and dismissals are hardly ever arbitrary. (1)
- Public officials enjoy security of tenure and dismissals are occasionally arbitrary. (2)
- Public officials enjoy some security of tenure and dismissals are arbitrary about half of the time. (3)
- Public officials enjoy weak security of tenure and dismissals are often arbitrary. (4)
- Public officials enjoy very weak security of tenure and dismissals are almost always arbitrary. (5)
- Don't know. (99)

Bureaucratic structure: Closedness

Entry level

Preamble: We are interested in whether or not ministries and other bureaucratic agencies of the central government in the country you have selected are open or closed organizations. For the purpose of this survey, the notions of open organizations and closed organizations are defined as follows:

[16]The values of the *Q2* variable were recorded in such a way that higher values stand for more merit-based appointments.

[17]The values of the *Q3* variable were recorded in such a way that higher values stand for stronger security of tenure.

Open organizations are those in which vacant positions of any level of hierarchy are open to both internal and external candidates, and employment opportunities at a relatively high level of responsibility (mid-career) are not uncommon.

Closed organizations are those in which new employees are normally hired to the lowest-level positions and vacant positions at a relatively high level of responsibility (mid-career) are opened only to the current employees of the organization.

Q4: On average, do most ministries and other bureaucratic agencies of the central government in your chosen country resemble closed or open type of organizations?

Answer options:

- Open: entry to bureaucratic positions is open at any level of hierarchy. (0)
- Closed: entry to bureaucratic positions is possible at the lowest level of hierarchy only, and positions at middle and higher levels of hierarchy are filled by individuals from within the bureaucracy. (1)
- Don't know. (99)

Examination

Preamble: We are interested to know whether or not hiring to ministries and other bureaucratic agencies of the central government of your chosen country involves formal civil service examination or if the hiring process is more like in the private sector, involving a resume check and interview, but not a sit-in exam.

Q5: When a recruitment process to bureaucratic positions in the central government in your chosen country is held, does this process usually involve a formal examination?

Answer options:

- Yes, formal examination is usually part of the hiring process. (1)
- No, formal examination is usually not part of the hiring process. (0)
- Don't know. (99)

Special laws

Preamble: Thinking about bureaucratic positions of the ministries and other bureaucratic agencies of the central government in your chosen country, is human resource management regulated by a set of laws and regulations applicable only to the public sector (including government), which is different from the country's labor code?

Q6: Thinking about bureaucratic positions of the ministries and other bureaucratic agencies of the central government in your chosen country, is human resource management regulated by a set of laws and regulations applicable only to the public sector (including government), which is different from the country's labor code?

Answer options:

- Yes, there are special human resource management laws/regulations applicable only to the public sector employees, including government. (1)
- No, a general labor code that regulates human resource management in the private sector is applicable to public sector employees, including government. (0)
- Don't know. (99)

Bureaucratic behaviour

Political interference

Preamble: We are interested in how often individual politicians personally or through their staff (for example, aids and secretaries) interfere into day-to-day bureaucratic decision-making.

The term *politician* refers to members of the national legislature and also to the members of executive (such as ministers and heads of agencies). By *day-to-day bureaucratic decision-making* we mean specific operational decisions stemming from existing laws and regulations. By *interference* we mean (unethical, unconstitutional or illegal) actions by individual politicians, who act personally or through their staff, to influence the content of a specific bureaucratic decision.

Q7: In your chosen country, how often is day-to-day bureaucratic decision-making subject to interference from individual politicians?

Answer options:

- Almost always. Day-to-day bureaucratic decision-making is almost always subject to political interference. (5)
- Often. Day-to-day bureaucratic decision-making is often subject to political interference. (4)
- About half of the time. Day-to-day bureaucratic decision-making is subject to political interference approximately half of the time. (3)
- Occasionally. Day-to-day bureaucratic decision-making is occasionally subject to political interference. (2)
- Hardly ever. Day-to-day bureaucratic decision-making is hardly ever subject to political interference. (1)
- Don't know. (99)

Impartiality

Preamble: We are interested in how often bureaucrats in your chosen country act impartially when implementing laws and regulations. Here, *impartiality* means that when implementing laws and regulations, bureaucrats do not take into consideration any information about the person(s) or case(s) that is not required by a law or regulation. Unlike the previous question about interference into day-to-day bureaucratic decision-making by politicians, this question refers to situations in which bureaucrats are free from political influence and make decisions exclusively at their own discretion.

We are interested in how things work in reality (de facto), not how they look on paper (de jure).

Q8: In your chosen country, how often do bureaucrats of the central government act impartially when implementing laws and regulations?

Answer options:[18]

- Almost always. Bureaucrats almost always act impartially. (1)
- Often. Bureaucrats often act impartially, and their decision-making is only occasionally influenced by considerations beyond the laws or regulations relevant to the case. (2)
- About half the time. Bureaucrats act impartially approximately half of the time. (3)
- Occasionally. Bureaucrats only occasionally act impartially, and their decision-making is often influenced by considerations beyond the laws or regulations relevant to the case. (4)
- Hardly ever. Bureaucrats hardly ever act impartially. (5)
- Don't know. (99)

A.2 Part Two

Thank you for completing the first section of the survey. In this second section we would like you to answer questions about a series of hypothetical scenarios.

This section is designed not as a check on your expertise, but to help us to create better country-level measures. Your responses are crucial in ensuring high data quality. When answering, please consider only information presented in the given scenario.

Patronage: vignette 1

Consider this description:

In country X, a recent representative survey of the public officials working in the central government showed that the workforce is highly educated and also balanced in terms of the ethnic composition of the country's population. This achievement is linked to the long-standing policy of merit-based recruitment to government that rooted out most blatant forms of nepotism and cronyism.

Now, consider this question:

In country X, to what extent are appointments to bureaucratic positions in the central government based on individuals' political and/or personal connections?

Almost all appointments are based on political and/or personal connections. (5)
Most of the appointments are based on political and/or personal connections, and only a few of the positions are filled meritocratically. (4)
About half of the appointments are based on political and/or personal connections. (3)
Only a few of the appointments are based on political and/or personal connections, and most positions are filled meritocratically. (2)
Almost no appointments are based on political and/or personal connections. (1)

[18]The values of the *Q8* variable were recorded in such a way that higher values stand for more impartiality.

Patronage: vignette 2

Consider this description:

In country X, applicants for jobs in the central government usually go through several rounds of a selection process, through which the most knowledgeable, skilled and experienced candidates are identified and eventually hired. However, being a relative of a current government official or receiving "a good word" from an influential politician, may sometimes tip the balance in favor of a less qualified, but better connected applicant.

Now, consider this question:

In country X, to what extent are appointments to bureaucratic positions in the central government based on individuals' political and/or personal connections?

Almost all appointments are based on political and/or personal connections. (5)
Most of the appointments are based on political and/or personal connections, and only a few of the positions are filled meritocratically. (4)
About half of the appointments are based on political and/or personal connections. (3)
Only a few of the appointments are based on political and/or personal connections, and most positions are filled meritocratically. (2)
Almost no appointments are based on political and/or personal connections. (1)

Patronage: vignette 3

Consider this description:

In country X, a central government agency is recruiting a policy expert. The vacancy is advertised publicly and the agency receives around 150 applications. The director of the agency receives a call from an influential politician, letting him/her know that the politician's daughter is amongst the applicants. The daughter is subsequently selected for the position, even though she is not, for her competence and other merits, among the best applicants. This situation is very typical for the central government of country X.

Now, consider this question:

In country X, to what extent are appointments to bureaucratic positions in the central government based on individuals' political and/or personal connections?

Almost all appointments are based on political and/or personal connections. (5)
Most of the appointments are based on political and/or personal connections, and only a few of the positions are filled meritocratically. (4)
About half of the appointments are based on political and/or personal connections. (3)
Only a few of the appointments are based on political and/or personal connections, and most positions are filled meritocratically. (2)
Almost no appointments are based on political and/or personal connections. (1)

A.3 Part Three

Thank you for completing the second section of the survey. For the third and final section, we would like to ask you some questions about you.

Gender: *What is your gender?*

Male (1)
Female (2)
Other (3)
Prefer not to say (4)

Education: *What is the highest level of education you have completed?*

None (1)
Primary and/or secondary (2)
Post-secondary including vocational training (3)
Bachelor degree or equivalent (4)
Master degree or equivalent (5)
PhD (6)

Age: *Which year were you born?*

2001 . . . 1929

Country of birth: *In which country were you born?*

Afghanistan (4) . . . Zimbabwe (716)

Country of residence: *In which country do you live today?*

Afghanistan (4) . . . Zimbabwe (716)

Current employer: *Who is your current employer?*

The current executive (including presidential administration and cabinet) (1)
A ministry, board or agency within the central government (2)
A ministry, board or agency within the regional or local government (3)
A state-owned enterprise (4)
A public university (5)
A private university (6)
A private sector company (7)
A non-governmental or a non-profit private organization (8)
Other (9)

Employment duration: *For how long have you been working for your current employer?*

Less than 2 years (1)
2 to 4 years (2)
5 to 7 years (3)

8 to 10 years (4)
11 to 13 years (5)
14 to 16 years (6)
More than 16 years (7)

Self-assessment: *Overall, how would you assess your knowledge about the bureaucratic behavior and the bureaucratic structure of the central government in your chosen country?*

Very bad 1 (1)
2 (2)
3 (3)
4 (4)
5 (5)
6 (6)
Very good 7 (7)

B Experts

Table B.1: Countries with less than three experts per country, N = 27

Country	N	Country	N
Burundi	1	Algeria	2
Chad	1	Bahrain	2
Congo	1	Barbados	2
Cote d'Ivoire	1	Cyprus	2
Cuba	1	Iran	2
Djibouti	1	Kuwait	2
Dominican Republic	1	Mongolia	2
El Salvador	1	Nicaragua	2
Laos	1	Senegal	2
Madagascar	1	South Sudan	2
Namibia	1	Syria	2
Niger	1		
Solomon Islands	1		
Somalia	1		
Suriname	1		
Tajikistan	1		

Table B.2: Countries with three or more experts, N = 115

Country	N	Country	N	Country	N
Afghanistan	6	Ghana	10	North Macedonia	8
Albania	15	Greece	11	Norway	14
Angola	4	Guatemala	3	Pakistan	6
Argentina	10	Guinea	3	Paraguay	5
Armenia	7	Guyana	3	Peru	11
Australia	18	Hong Kong	5	Philippines	8
Austria	5	Hungary	17	Poland	10
Azerbaijan	5	Iceland	5	Portugal	6
Bahamas	5	India	16	Romania	15
Bangladesh	13	Indonesia	16	Russia	15
Belarus	9	Iraq	5	Rwanda	4
Belgium	5	Ireland	5	Saudi Arabia	3
Benin	3	Israel	10	Serbia	5
Bolivia	4	Italy	12	Singapore	6
Bosnia-Herzegovina	9	Jamaica	5	Slovakia	6
Botswana	4	Japan	8	Slovenia	9
Brazil	10	Jordan	6	South Africa	17
Bulgaria	8	Kazakhstan	12	Spain	20
Cambodia	5	Kenya	10	Sri Lanka	3
Cameroon	5	Korea, South	21	Sudan	4
Canada	10	Kyrgyzstan	6	Sweden	11
Chile	8	Latvia	7	Switzerland	5
China	14	Lebanon	5	Taiwan	12
Colombia	5	Lesotho	5	Tanzania	6
Costa Rica	4	Lithuania	8	Thailand	3
Croatia	8	Malawi	5	Togo	3
Czech Rep	9	Malaysia	4	Tunisia	4
Denmark	13	Mali	3	Turkey	18
Ecuador	3	Malta	8	Uganda	5
Egypt	3	Mexico	17	Ukraine	5
Eritrea	3	Moldova	7	UAE	5
Estonia	9	Montenegro	5	UK	9
Ethiopia	8	Morocco	3	USA	42
Fiji	3	Mozambique	3	Uruguay	5
Finland	6	Nepal	5	Uzbekistan	7
France	7	Netherlands	13	Venezuela	12
Georgia	9	New Zealand	13	Vietnam	4
Germany	19	Nigeria	22	Zambia	9
				Zimbabwe	5

Note: Experts who answered all parts of the survey included.

C Individual-level determinants of expert assessments

Table C.1: Expert background and their assessments

	proff1	proff2	proff3	close1	close2	close3	impar1	impar2
female	0.17	0.01	-0.14	-0.02	0.03	-0.01	0.17	0.23**
	(0.10)	(0.10)	(0.10)	(0.04)	(0.04)	(0.03)	(0.11)	(0.10)
birthyear	0.02***	0.02***	-0.00	0.00*	0.00	-0.00	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
education	-0.10	-0.06	-0.11	0.07	0.11**	0.03	-0.14	0.03
	(0.11)	(0.11)	(0.11)	(0.05)	(0.05)	(0.03)	(0.12)	(0.11)
work_uni	-0.25**	-0.28**	-0.16	-0.02	-0.10**	-0.07**	-0.23*	-0.34***
	(0.11)	(0.11)	(0.11)	(0.05)	(0.05)	(0.03)	(0.12)	(0.11)
work_duration	-0.02	-0.03	-0.09***	-0.01	0.01	0.00	-0.03	-0.04*
	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)
self-assessment	-0.03	-0.06	-0.02	-0.02	-0.04**	0.01	-0.06	-0.08**
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.01)	(0.05)	(0.04)
Constant	-28.59***	-28.08***	7.59	-6.38*	-5.64	1.32	-21.71**	-19.50**
	(8.95)	(8.69)	(8.86)	(3.82)	(3.75)	(2.46)	(9.40)	(8.57)
Observations	674	674	674	674	674	674	674	674
R-squared	0.06	0.07	0.04	0.02	0.02	0.01	0.05	0.07

Note: All experts who answered parts one and three of the survey are included. OLS estimates (unstandardized coefficients), standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. In this analysis Proff1 (Patronage), Proff3 (Tenure) and Impart1 (Political Interference) are recorded in such a way that higher values stand for less patronage in recruitment, stronger security of tenure and less political interference.

Table C.2: Expert background, including country fixed-effect, and their assessments

	proff1	proff2	proff3	close1	close2	close3	impar1	impar2
female	0.17*	-0.04	-0.19**	0.01	-0.02	-0.03	0.20**	0.28***
	(0.09)	(0.09)	(0.09)	(0.05)	(0.04)	(0.03)	(0.10)	(0.10)
birthyear	-0.00	0.00	-0.01***	0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
education	0.00	-0.01	-0.04	0.02	0.03	-0.02	-0.03	0.05
	(0.09)	(0.10)	(0.10)	(0.05)	(0.04)	(0.03)	(0.11)	(0.10)
work_uni	-0.04	-0.05	0.00	0.04	-0.07	-0.03	0.04	-0.08
	(0.09)	(0.10)	(0.10)	(0.05)	(0.04)	(0.03)	(0.11)	(0.10)
work_duration	-0.02	-0.04*	-0.06***	-0.01	-0.00	-0.00	-0.04	-0.05**
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
self-assessment	-0.00	-0.06	-0.01	-0.00	-0.02	0.01	-0.02	-0.07*
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.01)	(0.04)	(0.04)
Constant	8.62	1.34	30.34***	-1.96	0.79	3.22	6.65	5.66
	(7.91)	(8.29)	(8.13)	(4.31)	(3.67)	(2.70)	(9.11)	(8.54)
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	674	674	674	674	674	674	674	674
R-squared	0.61	0.55	0.58	0.34	0.50	0.37	0.53	0.51

Note: All experts who answered parts one and three of the survey are included. OLS estimated (unstandardized coefficients), standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. In this analysis Proff1 (Patronage), Proff3 (Tenure) and Impart1 (Political Interference) are recorded in such a way that higher values stand for less patronage in recruitment, stronger security of tenure and less political interference. N of countries = 131.

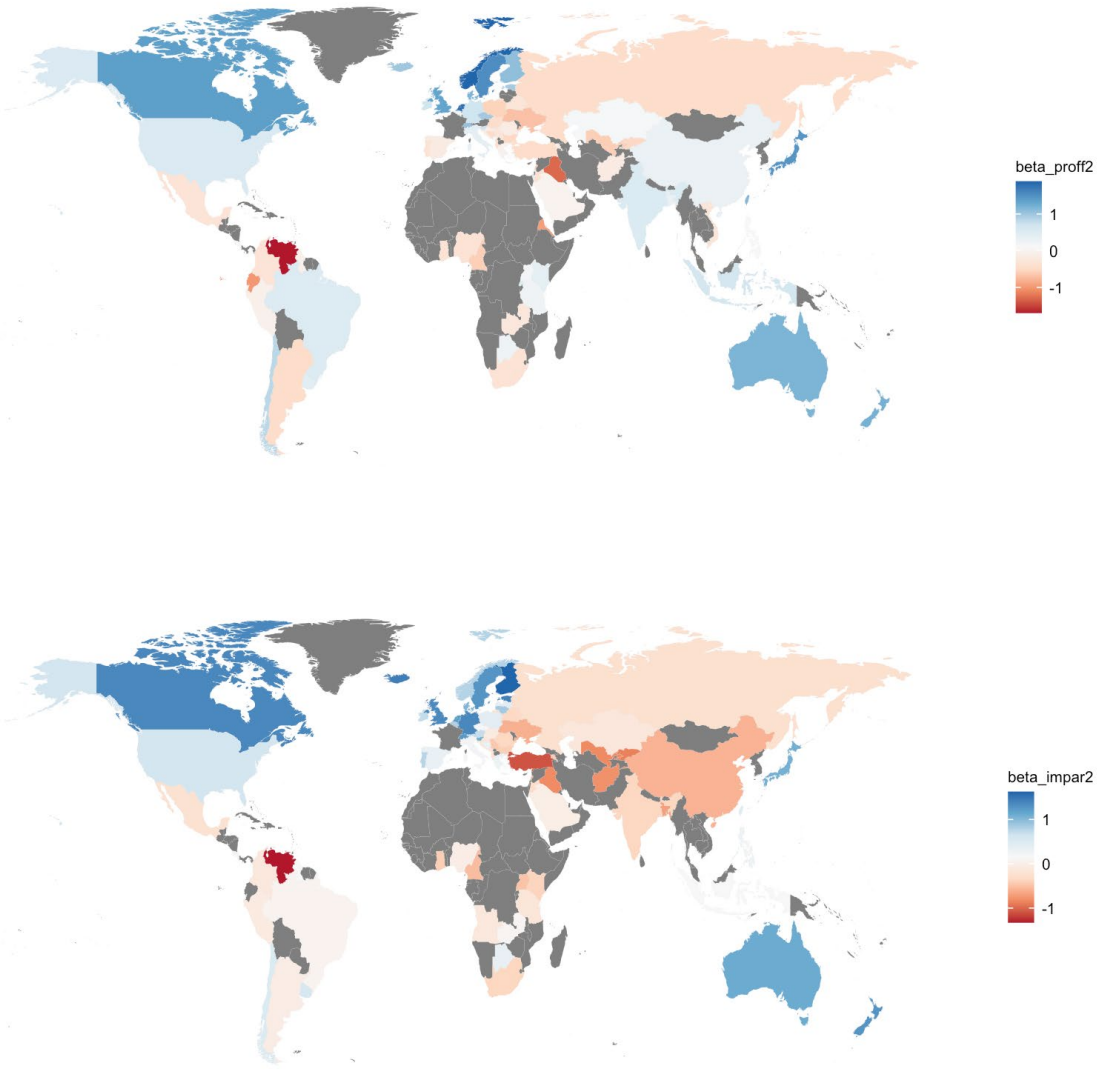
D Country-level Estimates

Table D.1: Distribution of IRT-based country-level point estimates by region

	Africa	Europe	Latin America	Asia	Total
Patronage	15	41	10	24	90
Merit	13	7	13	23	86
Tenure	15	38	12	25	90
Political Interference	13	38	11	21	83
Impartiality	13	41	10	20	84

Note: Europe includes the USA, Canada, Australia and New Zealand.

Figure D.1: Merit and Impartiality across the globe



Note: The upper panel depicts the spatial distribution of Merit estimates (N = 86) and the lower panel depicts the spatial distribution of Impartiality estimates (N = 84).

Figure D.2: Country-level point estimates with 95 percent credible intervals: Patronage

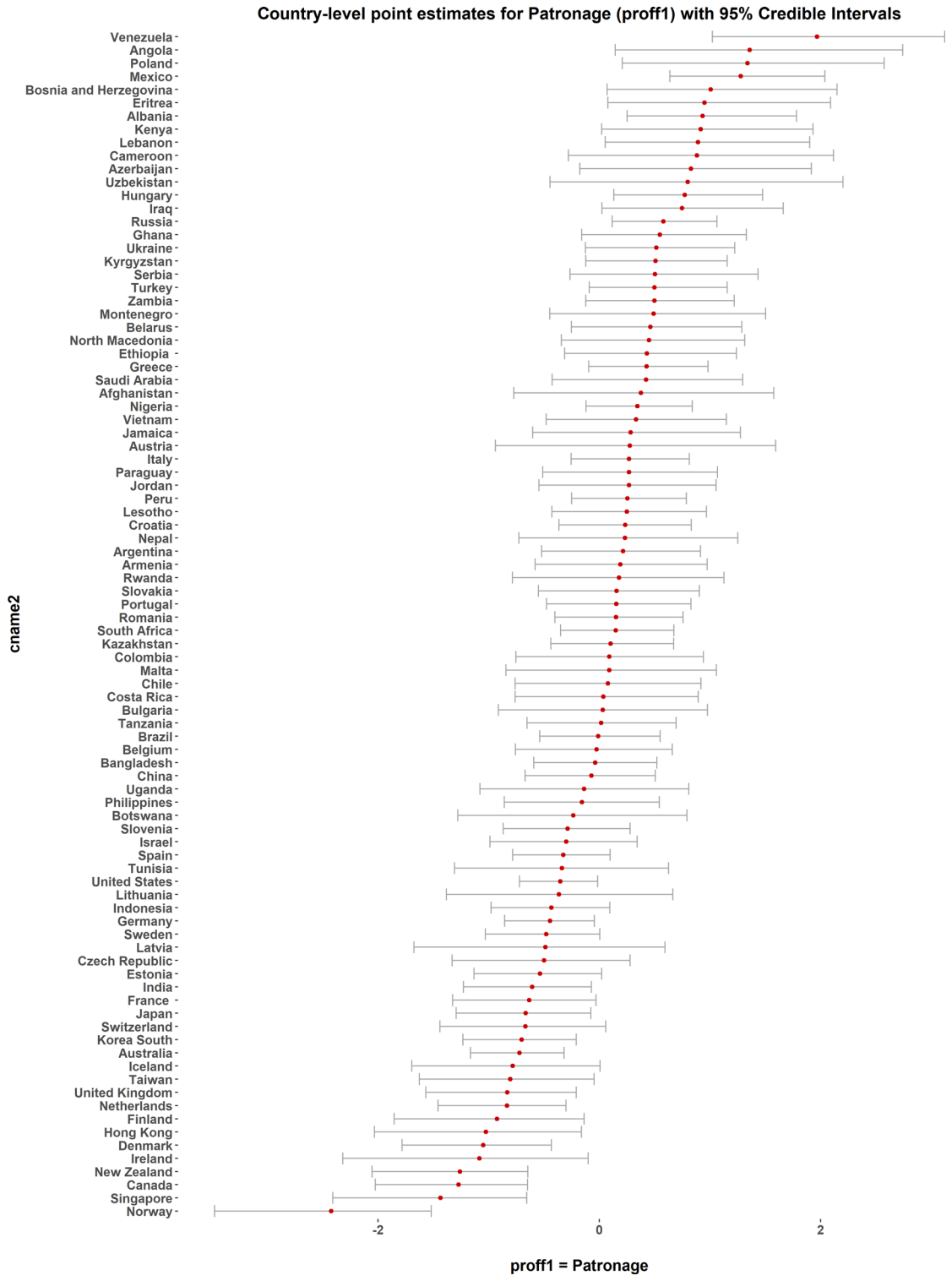


Figure D.3: Country-level point estimates with 95 percent credible intervals: Merit

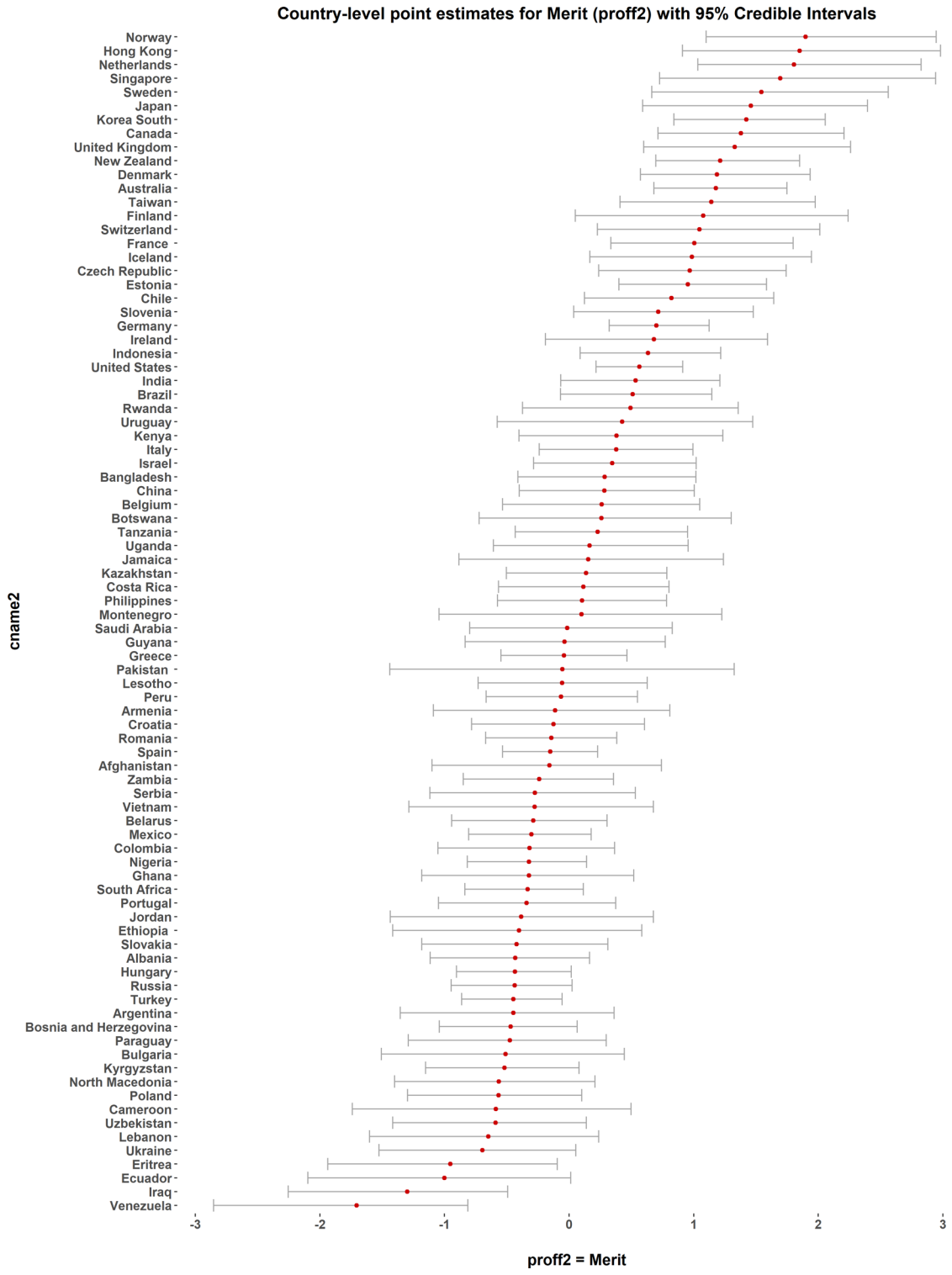


Figure D.4: Country-level point estimates with 95 percent credible intervals: Tenure

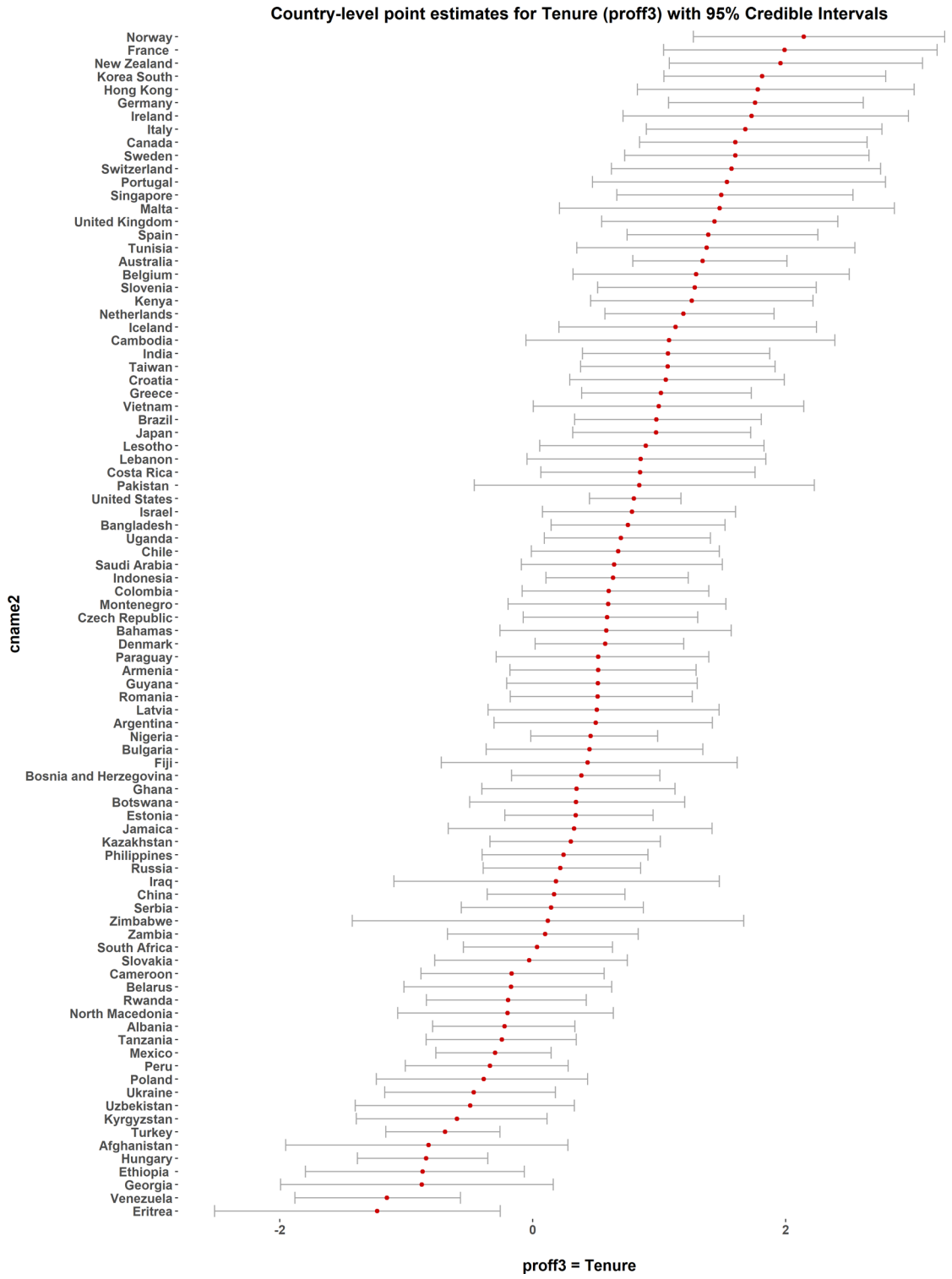


Figure D.5: Country-level point estimates with 95 percent credible intervals: Political Interference

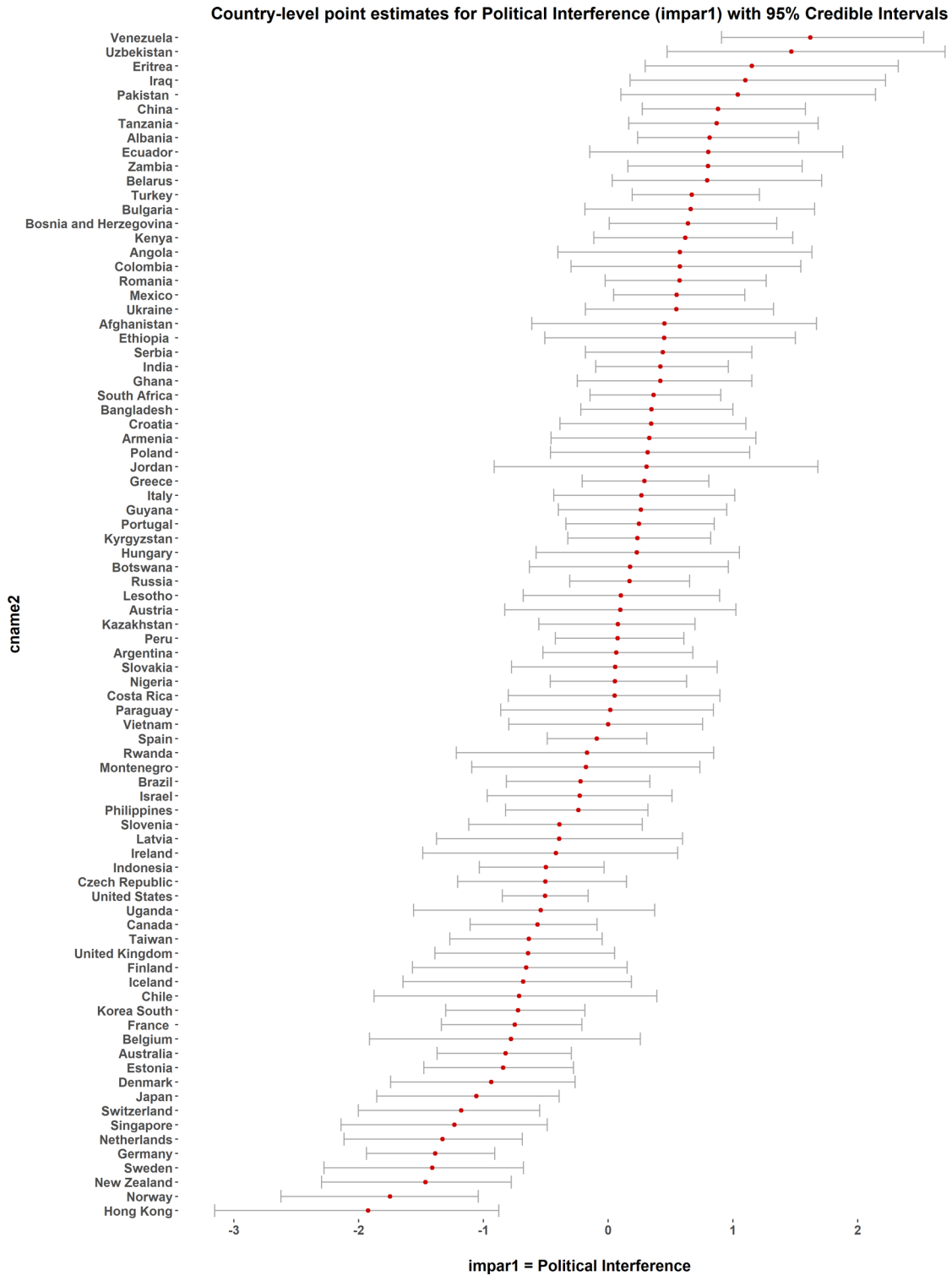
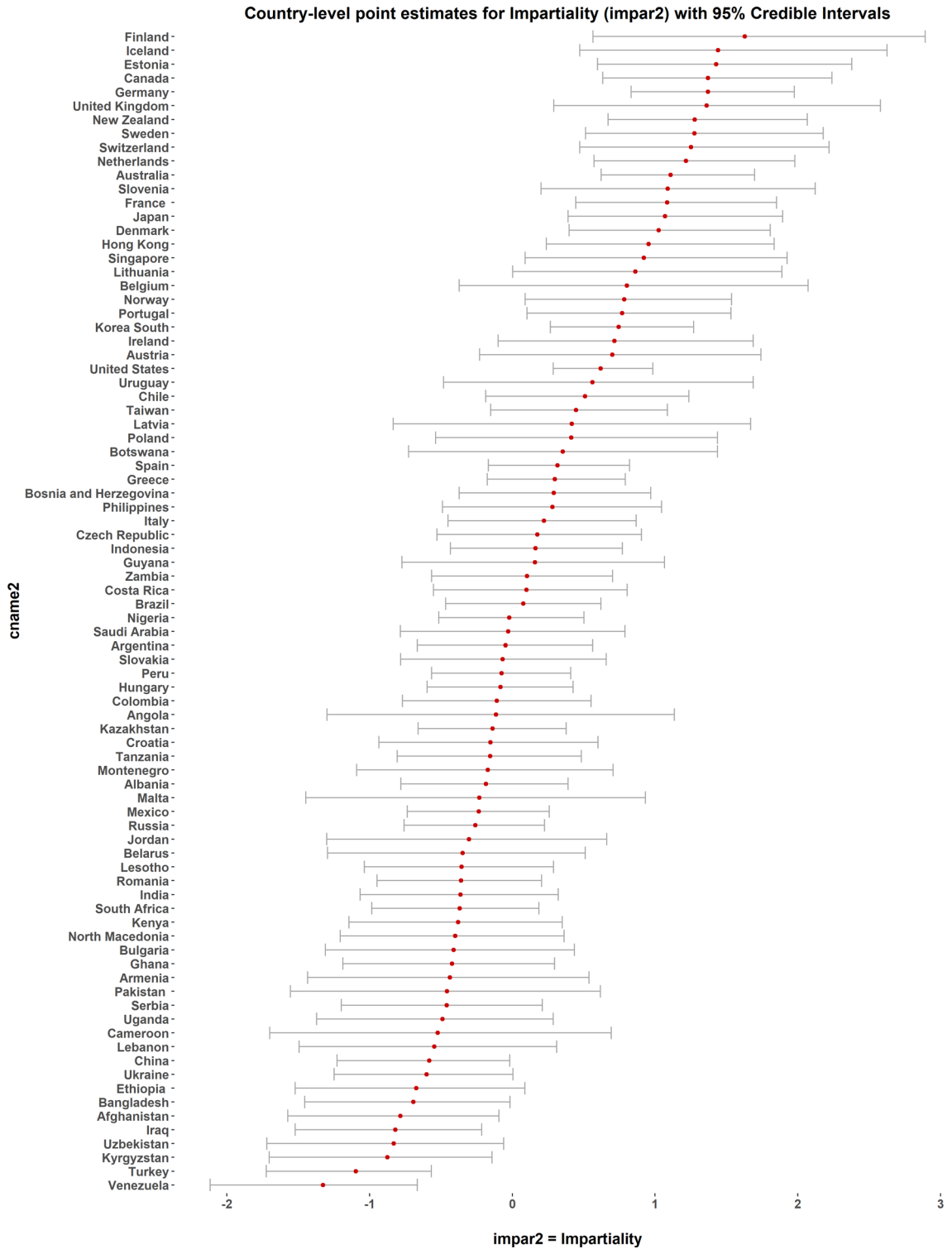
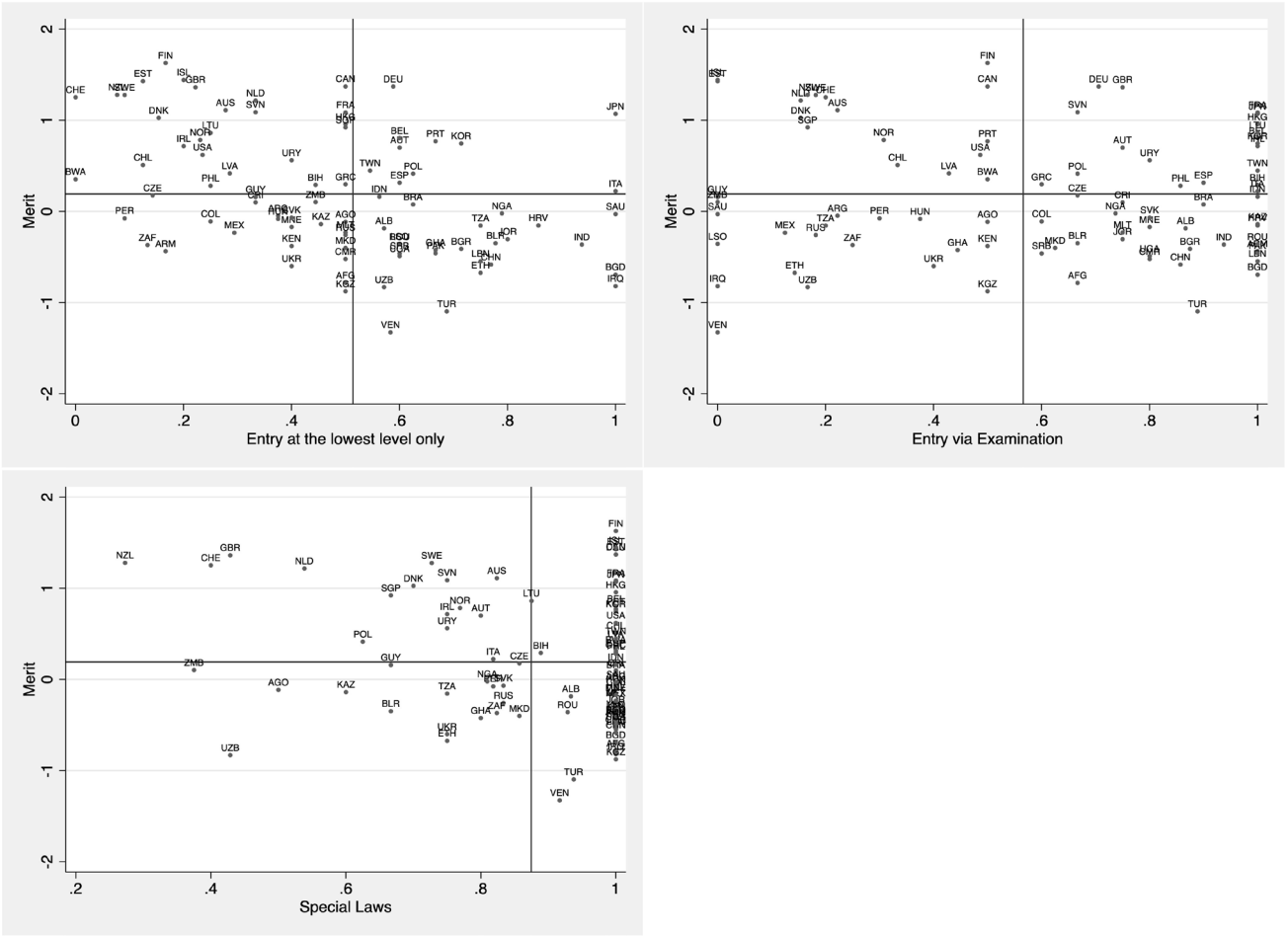


Figure D.6: Country-level point estimates with 95 percent credible intervals: Impartiality



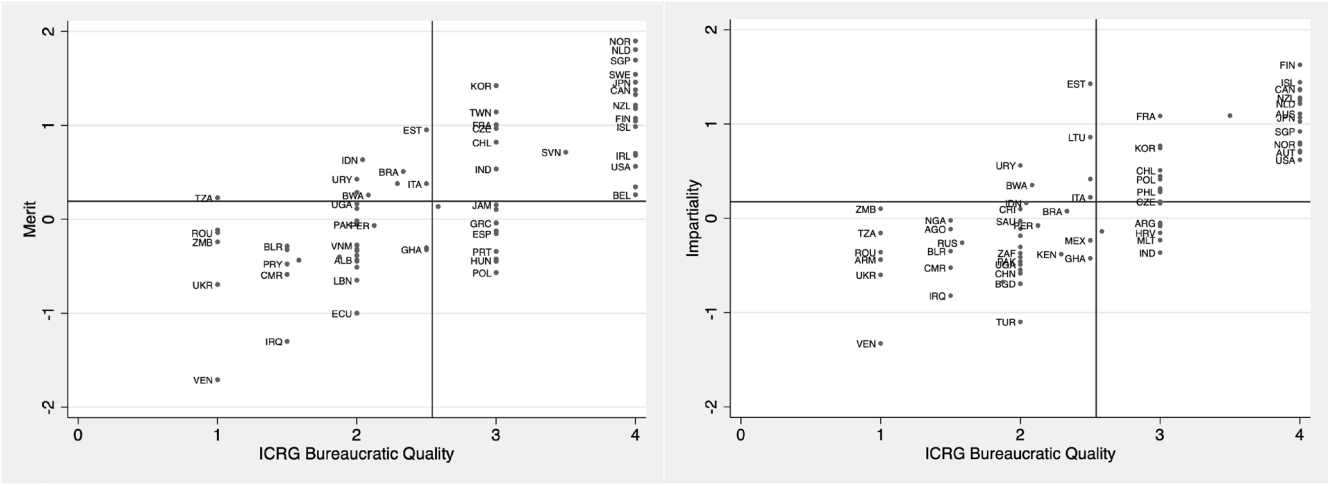
E Validation

Figure E.1: Association between Merit and individual indicators of Closedness



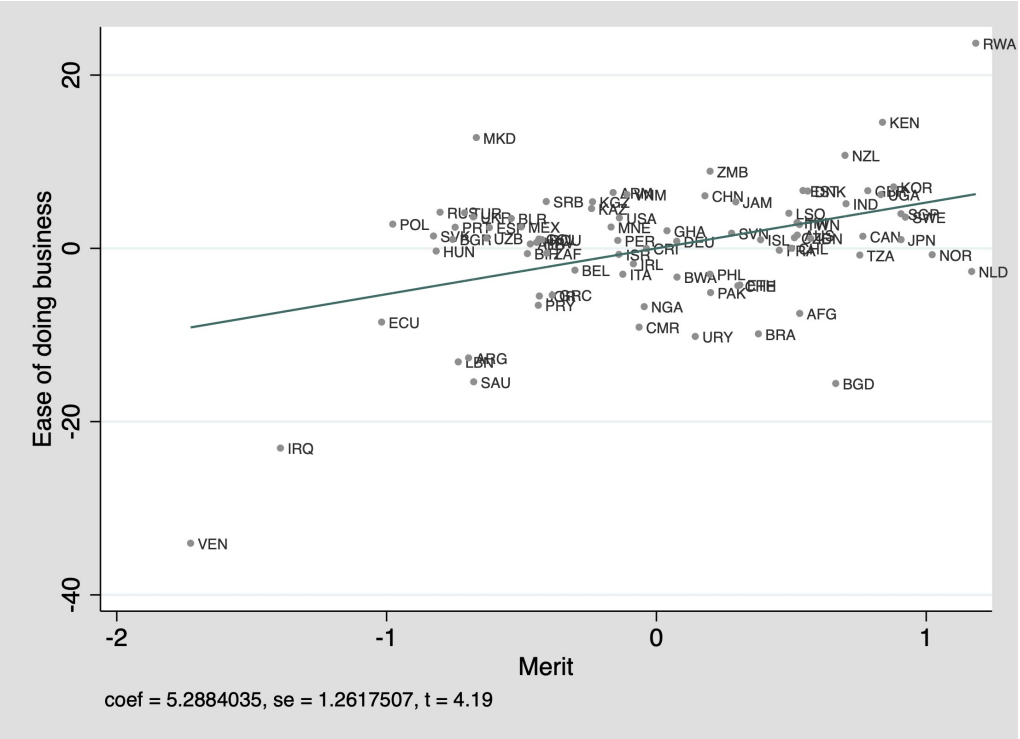
Note: Values of Merit are on the Y axes of all graphs. Values on the X axis are: Entry at the lowest level/Close1 (top left panel), Entry via Examination/Close2 (top right panel), Special laws/Close3 (bottom left panel).

Figure E.2: Association between the Merit, Impartiality and ICRG Bureaucratic Quality



Note: Values of ICRG Bureaucratic quality are on the X axes in both graphs. Values of Merit are on the Y axis of the left panel (r = .73***, N = 76). Values of Impartiality are on the Y axis of the right panel (r = .8***, N = 76

Figure E.3: Partial Regression Plot: Merit and Ease of Doing Business



Note: Data for Ease of Doing Business and Merit are for the year 2019; logGDPpc is for the year 2018. N = 83.

F QoG Expert Surveys 2011, 2015 and 2020: Comparison

Table F.1: Correspondence of questions between QoG Expert Survey 2011, 2015 and 2020

Concept	2020 questions	2015 questions	2011 questions
Patronage: Political	proff1	q2_b	q2_b
Patronage: Social	proff1	q2_c	—
Merit	proff2	q2_a	q2_a
Tenure	proff3	q2_j	q2_f
Impartiality	impar2	q7	q4
Entry at the lowest level only	close1	q2_i	—
Entry through examination only	close2	q2_d	q2_c
Special laws	close3	q4_f	q8_f

Note: q2b: When recruiting public sector employees, the political connections of the applicants decide who gets the job? q2c: When recruiting public sector employees, the personal connections of the applicants (for example kinship or friendship) decide who gets the job? q2a: When recruiting public sector employees, the skills and merits of the applicants decide who gets the job? q2j/q2f: Once one is recruited as a public sector employee, one remains a public sector employee for the rest of one's career. q7: By a common definition, impartiality implies that when implementing policies, public sector employees should not take anything about the citizen/case into consideration that is not stipulated in the policy. Generally speaking, how often would you say that public sector employees today, in your chosen country, act impartially when deciding how to implement a policy in an individual case? q2i: Entry to the public sector is open only at the lowest level of the hierarchy. q2d/q2c: Public sector employees are hired via a formal examination system. q4f/q8f: The terms of employment for public sector employees are regulated by special laws that do not apply to private sector employees. The questionnaires are available in Dahlberg et al. (2013) and Dahlström et al. (2015).

Table F.2: QoG Expert Surveys 2011, 2015 and 2020: Correlational Analysis of Professionalism and Impartiality Traits

	Patronage	Merit	Tenure	Impartiality
		2011/2015		
Patronage: political	.77***			
Patronage: social	.71***			
Merit		.84***		
Tenure			.69***	
Impartiality				.77***
N	91	91	90	90
		2015/2020		
Patronage: political	.76***			
Patronage: social	.74***			
Merit		.80***		
Tenure			.40***	
Impartiality				.81***
N	82	79	77	76
		2011/2020		
Patronage	.69***			
Merit		.76***		
Tenure			.30***	
Impartiality				.75***
N	80	77	81	76

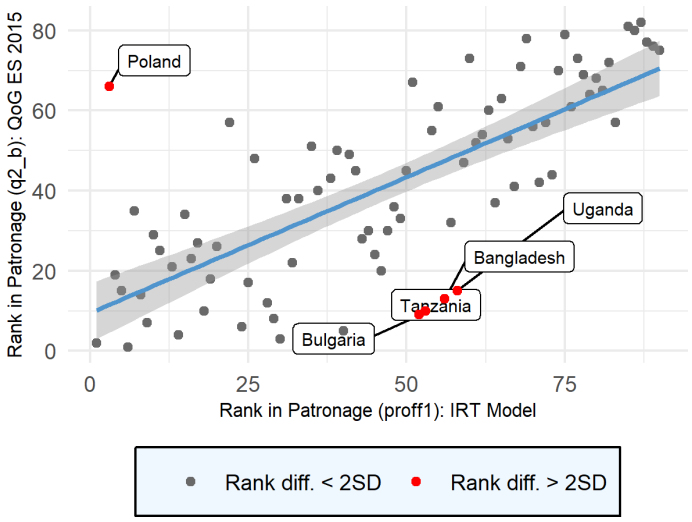
Note: The 2015 QoG Expert Survey contained two separate Patronage questions: one relating to political patronage and another relating to personal connections. The question on patronage in the 2011 and 2020 surveys combined these two dimensions of patronage in one question. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table F.3: QoG Expert Surveys 2011, 2015 and 2020: Correlational analysis of the Closedness traits

	Entry level	Examination	Special laws
		2011/2015	
Entry level	—		
Examination		.72***	
Special laws			.60***
N		90	90
		2015/2020	
Entry level	.49***		
Examination		.66***	
Special laws			.46***
N	98	99	99
		2011/2020	
Entry level	—		
Examination		.67***	
Special laws			.49***
N		93	96

Note: The 2011 QoG Expert Survey did not have a question on the level of entry. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Figure F.1: QoG 2015 and 2020: Patronage — Comparison of Rank Orders



Note: Rank order values from 2020 are on the X axis. Values from 2015 are on the Y axis. Higher values (lower rank) stand for more patrimonial entry to public bureaucracy. Poland became more patrimonial in 2020, while Bangladesh, Bulgaria, Tanzania and Uganda became less patrimonial.

Table F.4: Bureaucratic Structure and Bureaucratic Behavior: country-level estimates from the Quality of Government Expert Survey 2020.

	Country	Patronage	Merit	Tenure	Political interference	Impartiality	Entry lowest level	Entry exam	Special laws	Closedness Index	Professionalism Index
1	Afghanistan	0,377	-0,158	-0,823	0,450	-0,785	0,5	0,67	1	0,562	-1,552
2	Albania	0,933	-0,432	-0,223	0,813	-0,185	0,57	0,87	0,93	0,855	-1,809
3	Angola	1,360			0,574	-0,114	0,5	0,5	0,5	-1,362	
4	Argentina	0,216	-0,448	0,498	0,066	-0,048	0,38	0,22	1	-0,502	-0,725
5	Armenia	0,191	-0,113	0,518	0,330	-0,437	0,17	1	1	0,529	-0,431
6	Australia	-0,722	1,179	1,343	-0,822	1,110	0,28	0,22	0,82	-1,262	1,899
7	Austria	0,277			0,097	0,7	0,6	0,75	0,8	0,264	
8	Azerbaijan	0,828					0,75	1	0,33	-0,491	
9	Bahamas			0,582			0,67	0	1	-0,344	
10	Bahrain										
11	Bangladesh	-0,035	0,286	0,753	0,346	-0,694	1	1	1	2,152	0,229
12	Belarus	0,462	-0,286	-0,171	0,793	-0,349	0,78	0,67	0,67	0,026	-1,268
13	Belgium	-0,023	0,262	1,292	-0,778	0,803	0,6	1	1	1,373	0,573
14	Benin							0	1		
15	Bolivia						1	0	0,67	-0,773	
16	Bosnia & Herzegovina	1,008	-0,468	0,385	0,640	0,290	0,44	1	0,89	0,711	-1,477
17	Botswana	-0,236	0,259	0,343	0,176	0,353	0	0,5	1	-0,719	0,089
18	Brazil	-0,010	0,510	0,977	-0,221	0,076	0,63	0,9	1	1,237	0,536
19	Bulgaria	0,032	-0,510	0,448	0,661	-0,411	0,71	0,88	1	1,365	-0,654
20	Cambodia			1,078			1	0,6	0,75	0,605	
21	Cameroon	0,882	-0,587	-0,167		-0,523	0,5	0,8	1	0,809	-1,847
22	Canada	-1,271	1,379	1,603	-0,567	1,370	0,5	0,5	1	0,255	2,690
23	Chile	0,078	0,822	0,676	-0,714	0,509	0,13	0,33	1	-0,784	0,495
24	China	-0,070	0,283	0,169	0,880	-0,583	0,77	0,86	1	1,439	-0,150
25	Colombia	0,091	-0,318	0,601	0,574	-0,109	0,25	0,6	1	-0,048	-0,449
26	Costa Rica	0,037	0,114	0,849	0,052	0,099	0,33	0,75	1	0,392	0,101
27	Croatia	0,234	-0,125	1,053	0,345	-0,154	0,86	1	1	1,874	-0,105
28	Cyprus										

Continued on next page

Table F.4 – continued from previous page

	Country	Patronage	Merit	Tenure	Political interference	Impartiality	Entry lowest level	Entry exam	Special laws	Closedness Index	Professionalism Index
29	Czech Rep	-0,498	0,969	0,589	-0,503	0,176	0,14	0,67	0,86	-0,595	1,027
30	Denmark	-1,049	1,188	0,574	-0,937	1,026	0,15	0,15	0,7	-2,029	1,644
31	Ecuador		-1,001		0,803			0,33	1		
32	Egypt								1		
33	Eritrea	0,951	-0,953	-1,232	1,152		0,67	0	0,67	-1,422	-2,926
34	Estonia	-0,536	0,953	0,341	-0,842	1,428	0,13	0	1	-1,399	0,874
35	Ethiopia	0,430	-0,401	-0,871	0,449	-0,674	0,75	0,14	0,75	-0,726	-1,816
36	Fiji			0,435			0	0,33	0,67	-2,105	
37	Finland	-0,924	1,076		-0,658	1,628	0,17	0,5	1	-0,395	
38	France	-0,633	1,006	1,991	-0,749	1,085	0,5	1	1	1,178	2,140
39	Georgia			-0,878			0,63	0,67	0,89	0,447	
40	Germany	-0,445	0,701	1,760	-1,386	1,370	0,59	0,71	1	0,807	1,588
41	Ghana	0,547	-0,322	0,346	0,417	-0,423	0,67	0,44	0,8	-0,170	-1,008
42	Greece	0,428	-0,041	1,015	0,290	0,297	0,5	0,6	1	0,439	-0,228
43	Guatemala						0,33		0,67		
44	Guinea						0,67	0,33			
45	Guyana		-0,037	0,515	0,263	0,158	0,33	0	0,67	-2,071	
46	Hong Kong	-1,024	1,850	1,779	-1,925	0,956	0,5	1	1	1,178	2,971
47	Hungary	0,773	-0,435	-0,843	0,229	-0,082	0,38	0,38	1	-0,220	-2,108
48	Iceland	-0,781	0,986	1,130	-0,680	1,442	0,2	0	1	-1,253	1,651
49	India	-0,605	0,535	1,069	0,420	-0,364	0,94	0,94	1	1,915	1,114
50	Indonesia	-0,432	0,633	0,636	-0,499	0,162	0,56	1	1	1,300	0,746
51	Iraq	0,747	-1,298	0,184	1,099	-0,820	1	0	1	0,305	-2,041
52	Ireland	-1,082	0,680	1,730	-0,418	0,716	0,2	1	0,75	-0,215	2,081
53	Israel	-0,297	0,347	0,785	-0,227		0,63	0,67	0,89	0,447	0,515
54	Italy	0,270	0,379	1,681	0,266	0,222	1	1	0,82	1,564	0,690
55	Jamaica	0,283	0,154	0,328			0,4	0	0,6	-2,157	-0,433
56	Japan	-0,666	1,459	0,976	-1,056	1,070	1	1	1	2,152	1,814
57	Jordan	0,268	-0,384		0,307	-0,304	0,8	0,75	1	1,301	

Continued on next page

Table F.4 – continued from previous page

	Country	Patronage	Merit	Tenure	Political interference	Impartiality	Entry lowest level	Entry exam	Special laws	Closedness Index	Professionalism Index
58	Kazakhstan	0,103	0,136	0,301	0,078	-0,139	0,45	1	0,6	-0,204	-0,316
59	Kenya	0,917	0,380	1,258	0,619	-0,379	0,4	0,5	1	0,060	-0,140
60	Korea, South	-0,702	1,423	1,815	-0,722	0,745	0,71	1	1	1,596	2,399
61	Kyrgyzstan	0,508	-0,518	-0,600	0,234	-0,876	0,5	0,5	1	0,255	-1,783
62	Latvia	-0,486		0,507	-0,392	0,416	0,29	0,43	1	-0,295	
63	Lebanon	0,892	-0,648	0,854		-0,546	0,75	1	1	1,665	-1,195
64	Lesotho	0,250	-0,056	0,894	0,102	-0,357	0,6	0	1	-0,474	-0,174
65	Lithuania	-0,364				0,862	0,25	1	0,88	0,287	
66	Malawi						0,8	0,6	0,8	0,377	
67	Malaysia						0,25	0,75	1	0,229	
68	Mali						1	0,67			
69	Malta	0,090		1,477		-0,232	0,5	0,75	1	0,716	
70	Mexico	1,279	-0,302	-0,298	0,549	-0,234	0,29	0,13	1	-0,839	-2,047
71	Moldova						0,71	0,86	0,86	0,870	
72	Montenegro	0,492	0,100	0,596	-0,177	-0,171	0,4	0,8	1	0,614	-0,462
73	Morocco						0,33	0,67	1	0,238	
74	Mozambique								1		
75	Nepal	0,233					1	1	1	2,152	
76	Netherlands	-0,834	1,806	1,191	-1,328	1,216	0,33	0,15	0,54	-2,202	2,371
77	New Zealand	-1,257	1,214	1,959	-1,464	1,278	0,08	0,17	0,27	-3,537	2,798
78	Nigeria	0,345	-0,322	0,457	0,054	-0,022	0,79	0,74	0,81	0,640	-0,763
79	North Macedonia	0,450	-0,565	-0,199		-0,401	0,5	0,63	0,86	0,024	-1,493
80	Norway	-2,422	1,899	2,145	-1,749	0,784	0,23	0,31	0,77	-1,371	4,424
81	Pakistan		-0,055	0,843	1,039	-0,458	0,67	1	1	1,503	
82	Paraguay	0,269	-0,474	0,518	0,018		0,4	0,2	1	-0,494	-0,775
83	Peru	0,253	-0,065	-0,339	0,075	-0,076	0,09	0,3	0,82	-1,500	-1,041
84	Philippines	-0,157	0,105	0,244	-0,238	0,281	0,25	0,86	1	0,427	-0,164
85	Poland	1,340	-0,567	-0,387	0,316	0,413	0,63	0,67	0,63	-0,407	-2,364
86	Portugal	0,154	-0,342	1,536	0,248	0,769	0,67	0,5	1	0,579	0,129

Continued on next page

Table F.4 – continued from previous page

	Country	Patronage	Merit	Tenure	Political interference	Impartiality	Entry lowest level	Entry exam	Special laws	Closedness Index	Professionalism Index
87	Romania	0,151	-0,142	0,513	0,573	-0,360	0,6	1	0,93	1,142	-0,425
88	Russia	0,579	-0,436	0,217	0,171	-0,258	0,5	0,18	0,83	-0,872	-1,212
89	Rwanda	0,178	0,493	-0,194	-0,169		0,5	0,5	1	0,255	-0,446
90	Saudi Arabia	0,424	-0,016	0,644		-0,029	1	0	1	0,305	-0,463
91	Serbia	0,505	-0,273	0,144	0,439	-0,461	0,6	0,6	1	0,634	-1,075
92	Singapore	-1,434	1,695	1,492	-1,233	0,921	0,5	0,17	0,67	-1,439	2,993
93	Slovakia	0,157	-0,422	-0,028	0,055	-0,068	0,4	0,8	0,83	0,075	-1,020
94	Slovenia	-0,285	0,715	1,282	-0,391	1,088	0,33	0,67	0,75	-0,571	1,135
95	South Africa	0,149	-0,334	0,035	0,365	-0,369	0,13	0,25	0,82	-1,492	-0,902
96	Spain	-0,325	-0,152	1,389	-0,092	0,315	0,6	0,9	1	1,188	0,572
97	Sri Lanka						0,67	1	1	1,503	
98	Sudan							0,33	0,75		
99	Sweden	-0,480	1,543	1,602	-1,411	1,276	0,09	0,18	0,73	-2,012	2,159
100	Switzerland	-0,667	1,046	1,572	-1,179	1,252	0	0,2	0,4	-3,214	1,909
101	Syria										
102	Taiwan	-0,803	1,142	1,067	-0,635	0,447	0,55	1	1	1,267	1,746
103	Tanzania	0,018	0,229	-0,245	0,869	-0,156	0,75	0,2	0,75	-0,621	-0,553
104	Thailand						0,33	1	1	0,853	
105	Togo						0,67	0,67			
106	Tunisia	-0,338		1,375			0,75	0,33	1	0,434	
107	Turkey	0,499	-0,448	-0,693	0,671	-1,097	0,69	0,89	0,94	1,136	-1,786
108	Uganda	-0,136	0,165	0,697	-0,541	-0,490	0	0,6	1	1,004	0,180
109	Ukraine	0,515	-0,695	-0,467	0,547	-0,601	0,6	0,8	1	-0,933	-1,834
110	UAE						0,4	0,4	0,75	-0,535	
111	UK	-0,832	1,329	1,437	-0,643	1,361	0,22	0,75	0,43	-1,673	2,171
112	USA	-0,353	0,564	0,799	-0,505	0,619	0,24	0,49	1	-0,286	0,739
113	Uruguay		0,427			0,561	0,4	0,8	0,75	-0,195	
114	Uzbekistan	0,801	-0,590	-0,494	1,469	-0,831	0,57	0,17	0,43	-2,070	-2,009
115	Venezuela	1,968	-1,706	-1,153	1,621	-1,327	0,58	0	0,92	-0,776	-4,299

Continued on next page

Table F.4 – continued from previous page

	Country	Patronage	Merit	Tenure	Political interference	Impartiality	Entry lowest level	Entry exam	Special laws	Closedness Index	Professionalism Index
116	Vietnam	0,333	-0,276	0,996	0,000		1	0,75	1	1,691	-0,344
117	Zambia	0,498	-0,241	0,098	0,801	0,102	0,44	0	0,38	-2,798	-1,076
118	Zimbabwe			0,120			0,8	0,4	1	0,654	