Political equality and quality of government

Ezcurra, Roberto and Zuazu, Izaskun

Public University of Navarra, Sapienza University of Rome

11 October 2019

Political equality and quality of government

Roberto Ezcurra

Public University of Navarre

roberto.ezcurra@unavarra.es

Izaskun Zuazu

University of Duisburg-Essen

izaskun.zuazu-bermejo@uni-due.de

Abstract

This paper examines the relationship between political equality and quality of government. Our hypothesis is that political equality fosters access to inclusive education and ultimately promotes good governance. We empirically test this hypothesis using data for 145 countries with different levels of economic development. In order to overcome potential endogeneity problems, our identification strategy exploits the variation in political equality in geographically neighbouring countries by means of spatial econometric techniques. The results reveal a positive and statistically significant effect of political equality on the quality of government. This implies that countries where the political power is more evenly distributed tend on average to have higher levels of institutional quality. In fact, this result is not affected by the inclusion in the analysis of a substantial number of controls that may be correlated with both political equality and quality of government, including the level of democracy and the degree of economic inequality. In fact, the observed link between political equality and governance remains robust to alternative measures of quality of government, estimation techniques, and other sensitivity checks. Our estimates also show that education acts as a transmission channel linking political equality and quality of government.

Keywords: political equality, quality of government, education.

JEL classification: H11, P48.

1 Introduction

Over the last decades a vast literature has shown the relevance of the quality of government for economic growth and long-run development (e.g. North, 1981; Knack and Keefer, 1995; Hall and Jones, 1999; Acemoglu *et al.*, 2001, 2002; Rodrik *et al.*, 2004). The quality of government is important because it shapes the incentives of key economic actors in society; in particular, good governance has a positive impact on the investment in physical and human capital and technology, contributes to attracting FDI, promotes a more efficient division of labour and facilitates the implementation of policies designed to reduce economic inequality and poverty (Acemoglu *et al.*, 2005; Quibria, 2006). Indeed, from the 1990s onwards the quality of government of recipient countries has increasingly become an important objective for the international development aid (Dijkstra, 2018). Furthermore, the quality of life is higher in countries with better governance outcomes (Bjøornskov *et al.*, 2010; Helliwell *et al.*, 2018). Accordingly, it is crucial to investigate why some countries have better quality of government than others.

During the last years numerous scholars have examined the effects of different factors on the quality of government, including geographical and historical conditions, cultural characteristics, or economic variables such as the degree of trade openness, economic inequality, or the level of development itself (e.g. La Porta *et al.*, 1999; Al-Marhubi, 2004; Treisman, 2007). Against this background, various contributions have considered the impact of democracy on the promotion of good governance (e.g. Charron and Lapuente, 2010; Fortunato and Panizza, 2015; Kotschy and Sunde, 2017), although there is limited evidence that, by itself, the extension of democratic liberties fosters improvements in government performance. However, as far as we are aware, this empirical literature has

paid no attention so far to the possible effect of the degree of concentration of political power across income groups on the quality of government, thus ignoring the role played by political equality in this context. This omission is potentially important given that democracy and political equality, although related, are distinct concepts (Houle, 2018). In fact, our empirical analysis shows that there is a substantial cross-country variation in political equality, even conditional on the same level of democracy. At the same time, as we will see below, there are theoretical arguments to assume that the distribution of political power across income groups should affect the way in which authority is exercised by governments.

In order to fill this gap and extend the literature on the determinants of good governance, the present paper aims to examine the relationship between political equality and quality of government using data for 145 countries with different levels of economic development. In particular, we are interested in finding out to what extent the distribution of political power across income groups contributes to shaping the quality of government. More precisely, our hypothesis is that low levels of political equality are detrimental to government performance. To shed light on the causal effect of political equality on governance, our identification strategy exploits the variation in political equality in geographically neighbouring countries by means of spatial econometric techniques.

Our results reveal a positive and statistically significant effect of political equality on the quality of government. This implies that countries where the political power is more evenly distributed across income groups tend on average to have higher levels of institutional quality, which is consistent with our theoretical framework. In fact,

this result is not affected by the inclusion in the analysis of a substantial number of controls that may be correlated with both political equality and quality of government, including the level of democracy and the degree of economic inequality. In fact, the observed link between political equality and governance remains robust to alternative measures of quality of government, estimation techniques, and other sensitivity checks. Our estimates also show that education acts as a transmission channel linking political equality and quality of government. Overall, these results are consistent with the work of Acemoglu *et al.* (2007), who highlight the importance of political equality for long-run development.

The remainder of the paper is organized as follows. After this introduction, section 2 discusses from a theoretical perspective why political equality should affect the quality of government. Section 3 describes the measures used in the paper to quantify the level of political equality and quality of government in the various countries. Section 4 examines empirically the existence of a relationship between the degree of concentration of political power across income groups and governance outcomes. The potential endogeneity of political equality in this context is addressed in section 5. In order to complement our findings, section 6 explores the relevance of education as a transmission channel linking political equality and quality of government. The final section offers the main conclusions of the paper.

2 Political equality, quality of government and education: A theoretical framework

As we have mentioned in the introduction, the extensive empirical literature on the determinants of the quality of government has paid no attention so far to the potential effect of political equality on governance. Nevertheless, there are reasons to assume the existence of a relationship between the degree of concentration of political power across income groups and government performance. In particular, in this paper we focus our attention on the role played by education as a potential transmission channel linking political equality and quality of government.

In countries with relatively low levels of political equality, the ruling elite has incentives to keep the *status quo* and may not be interested in a more educated population, despite the growth-enhancing potential effect of human capital (Savoia *et al.*, 2010). On the contrary, in countries with relatively high levels of political equality, the middle and lower classes can use their political power to promote educational policies and reforms designed to increase the general education of the population, as a way to guarantee equality of opportunities for all citizens (Acemoglu and Robinson, 2019). These arguments suggest the existence of a positive relationship between political equality and education. In fact, this association is supported by abundant historical evidence that shows that political inequality may be detrimental to the emergence of efficient institutions and the development of a quality education system due to the rent-seeking behaviour of political and economic elites. For example, Engerman and Sokoloff (2000) point out that countries in Latin America and the Caribbean were historically characterized by high levels of economic inequality because of their geographical characteristics, which led to

oligarchic politics and extractive institutions designed to maintain the political power of the elites and to preserve the existing inequality. This gave rise to low levels of political equality and a restricted access to education for the general population (Galor *et al.*, 2009).[1] This contrasts with the situation in North America, where geographic conditions led to a more egalitarian distribution of political power and economic resources since the beginning of the colonial period, thus favouring the development of growth-promoting institutions. As a result, education levels in North America were considerably higher than in the rest of the continent, to the point that it is likely that the United States had the most literate population in the world by 1800 (Engerman and Sokoloff, 2000, p. 227). The historical examples on the relationship between political equality and education are not limited to the preindustrial period. Thus, the advances in the process of urbanization and the development of trade unions during the industrial revolution brought about the emergence in different countries of Western Europe of politically powerful middle classes who favoured educational policies and reforms that promoted the education of the masses (Huber *et al.*, 1993; Bourguignon and Verdier, 2000).

Despite this historical evidence, to the best of our knowledge, none study has empirically examined so far the link between political equality and education. However, there are various contributions about the impact on human capital formation of land inequality, which can be interpreted as a reasonable proxy for the degree of concentration of political power. Nevertheless, the results of these works are not conclusive. For example, Eriksson and Vollrath (2004) find in a sample of developing and developed countries that lower land inequality across agricultural populations, but not inequality

---

[1]This general picture is compatible with the existence of differences across countries (Coatsworth, 1998; Nugent and Robinson, 2002).

within the landholding class, is associated with higher public provision of education. Using historical data for the United States and several European countries, Galor *et al.* (2009) and Baten and Hippe (2018) show that inequality in land distribution is negatively correlated with the investment in education. These findings, however, contrasts with those obtained by Gray and Clark (2014) and Goñi (2016), who reject the effect of land inequality on human capital formation for England.

In turn, the level of education of the population may affect the quality of government. According to the modernization theory popularized by Lipset (1959), education plays a key role in empowering citizens to engage with government institutions. As pointed out by Almond and Verba (1989 [1963], p. 316), "the uneducated man or the man with limited education is a different political actor from the man who has achieved a higher level of education." At the same time, education is considered "the best proxy for both information and civic virtues" (Alesina and Giuliano, 2011, p. 8), and it can contribute to promoting good governance by both fostering social capital and reducing informational asymmetries. Indeed, citizens with high levels of education are more likely to select good politicians and detect corrupted public officials, thus improving the quality of government (Milligan *et al.*, 2004; Ostrom, 2006). This is consistent with the results obtained by Glaeser *et al.* (2004), who show that schooling is a strong predictor of institutional improvement. In a similar vein, Fortunato and Panizza (2015) find that education has a positive impact on the quality of government, although only in consolidated democracies.

Taken together, the various arguments laid down above suggest the existence of a positive association between political equality and quality of government. In particular,

according to the previous discussion, we can formulate the following hypotheses:

HYPOTHESIS 1: *The degree of political equality has a positive effect on the quality of government.*

HYPOTHESIS 2: *Education acts as a transmission channel linking political equality and quality of government.*

In the rest of the paper we aim to empirically test the validity of these hypotheses using data for a cross-section of countries with different levels of economic development.

3   Data and preliminary evidence

Our research requires data on the degree of political equality in the various countries. To that end, we resort to a measure taken from the Varieties of Democracy (V-Dem) dataset, which captures the degree to which political power is distributed equally across income groups. This measure of political equality is constructed using the information provided by multiple country experts (typically scholars or professionals with deep knowledge of a country and its political institutions), who code one or several countries according to expertise (Coppedge *et al.*, 2018a).[2] The ratings provided by these country experts are aggregated using a measurement model based on Bayesian item response theory (IRT) modeling techniques, which take into account measurement error and a potential serious source of bias, known as differential item functioning (DIF), related to the possibility that experts could have different thresholds for their ratings. The measurement model

---

[2]See the Appendix for further details.

produces a probability distribution over country-year scores on a standardized interval scale (Coppedge *et al.*, 2018b). As recommended by the authors of V-Dem project, we use as the main measure of political equality in our study the point estimate coinciding with the median value of this distribution. This is a continuous variable, with higher values indicating greater political equality. For example, for the year 2010 it ranges from -2.44 (Ukraine) to 2.77 (Bolivia), with a mean value of 0.44 and a standard deviation of 1.00.

Before continuing, it is important to examine to what extent political equality and democracy are distinct concepts, as "a key characteristic of democracy is the continued responsiveness of the government to the preferences of its citizens, considered as political equals" (Dahl, 1971, p. 1). In order to explore this issue, we investigate the link between the measure of political equality just described and a widely used democracy index drawn from the Polity IV project. Figure 1 shows the scatter plot for the two variables using data for 2010. As can be observed, there is a positive association between political equality and democracy, with a pairwise correlation coefficient of 0.52 (p-value = 0.000). Nevertheless, the relationship is far from perfect and there are numerous exceptions. Some autocratic regimes such as Belarus, Eritrea or Cuba, are characterized by a level of political equality above the median. By contrast, the experiences of countries such as Chile, Nicaragua or Macedonia, highlight that democracy can also be compatible with the existence of relatively low levels of political equality.

INSERT FIGURE 1 AROUND HERE

Likewise, one may suspect that the measure of political equality is really reflecting

the degree of economic inequality within the various countries. Indeed, as detailed in the Appendix, the V-Dem project takes this concern into account and country experts are explicitly asked for focusing on political, not economic, inequality. Figure 2 provides a graphical illustration on the relationship between the measure of political inequality and the income Gini index, based on net incomes from the Standardized World Income Inequality Database (SWIID). As shown, there is a negative association between political equality and economic inequality, with a pairwise correlation coefficient of -0.35 (p-value = 0.000). However, the scatter plot also reveals numerous exceptions, which is consistent with the evidence provided by Houle (2018). For example, there are countries such as Bolivia, Lesotho or Sri Lanka, with high economic inequality but a level of political equality above the median. At the same time, the cases of Ukraine, Kazakhstan or Kosovo illustrate that a relatively low level of economic inequality and a high degree of concentration of political power across income groups can also go hand in hand. These examples indicate that the measure of political equality is not simply capturing the economic differences across members of society.

INSERT FIGURE 2 AROUND HERE

In order to carry out our analysis, we also need information about the quality of government in the different countries. With this aim, we rely on the Worldwide Governance Indicators (WGI) constructed by Kaufmann *et al.* (1999). These indicators capture various aspects of governance, including "(1) the process by which governments are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of citizens and the state for

9

the institutions that govern economic and social interactions among them" (Kaufmann *et al.*, 1999, p. 1). Bearing in mind the nature of our study, we follow the strategy adopted among other by Bjørnskov *et al.* (2010) and Helliwell *et al.* (2018), and use as our main measure of quality of government the average of four out of the six indicators constructed by Kaufmann *et al.* (1999): government effectiveness, regulatory quality, rule of law, and control of corruption.[3] These indicators are obtained using an unobserved components methodology that aggregates the information provided by numerous underlying variables taken from different data sources, including surveys of households and firms, commercial information providers, public sector organizations, and non-governmental organizations. The method employed to calculate these six indicators gives them a unit normal distribution ranging approximately from -2.5 to 2.5, with higher values indicating better quality of government.[4] The employment of an aggregate indicator based on the average of the four WGI measures mentioned above seems particularly appropriate in this context, as each individual index may suffer a degree of measurement error.

In this paper we are interested in examining the link between political equality and quality of government. As a first insight into this relationship, countries are divided into two and three groups according to their degree of political equality in 2010. The definitions of the various groups are based on the median (classification into two groups) and the first and third quartiles (classification into three groups) of the cross-country distribution of the measure of political equality. As can be seen in Figure 3, the countries

---

[3]The definitions of these four indicators are included in the Appendix. The main results of the paper remain unaltered if we consider the average of the six WGI measures, including additionally the indices of voice and accountability, and political stability and absence of violence. See section 4.3 for further details.

[4]See Kaufmann *et al.* (2010) for further technical details.

with higher levels of political equality tend on average to have better quality of government. By contrast, those countries with worse governance outcomes are characterized as a whole by a greater concentration of political power across income groups. Indeed, the differences between the various groups are statistically significant at the 1% level, as shown by the corresponding F-tests.

INSERT FIGURE 3 AROUND HERE

When considering these findings, however, it is important to note that this analysis is merely descriptive, and the results just discussed may ultimately be sensitive to the specific number of groups used to perform the country classification. More importantly, it is very likely that the quality of government does not depend exclusively on the degree of political equality. Accordingly, the information provided by Figure 3 should be cautiously interpreted, because omitted variables may affect the apparent link between political equality and governance outcomes. In view of this, in the next sections we develop a more appropriate statistical analysis to investigate to what extent the degree of political equality affects the quality of government.

4 Is there a link between political equality and quality of government?

4.1 The model

In order to examine in greater detail the relationship between political equality and quality of government, we consider the following cross-sectional model:

$$QG_i = \alpha + \beta PE_i + \gamma DEM_i + \delta EI_i + \theta X_i + \lambda_r + \varepsilon_i \tag{1}$$

where QG_i, PE_i, DEM_i and EI_i are respectively the values in country i of the measures of quality of government, political equality, democracy and economic inequality described in section 3; X_i is a set of variables controlling for additional factors assumed to influence governance; λ_r are regional fixed effects based on the World Bank classification; and ε_i is an heteroskedastic error term. This type of cross-sectional model is widely used in the literature on the determinants of the quality of government (e.g. La Porta *et al.*, 1999; Treisman, 2000, 2007; Al-Marhubi, 2004). The coefficient of interest throughout the paper is β, which captures the effect of political equality on the quality of government. We include in the list of regressors the measures of democracy and economic inequality because they are potential determinants of governance (e.g. Sunde *et al.*, 2008; Fortunato and Panizza, 2015; Kotschy and Sunde, 2017), and, according to the previous discussion, they are also correlated with the degree of concentration of political power across income groups (Figures 1 and 2). Consequently, the inclusion of these variables in model (1) is particularly important in order to estimate the impact

of political equality on the quality of government independently of the effect of these covariates.

The control variables in X_i have been selected on the basis of existing studies on the determinants of governance. Following the insights by La Porta *et al.* (1999, 2008), we begin by including legal origin dummies in order to account for any potential effect of legal codes on government performance.[5] We also consider the possible influence of colonial legacies on contemporary political institutions. To that end, we use a dummy variable to identify former European colonies. Furthermore, according to cultural theories that emphasize the role played by religious traditions in determining cultural attitudes towards social hierarchy and authority, religion may be important in shaping governance (Putnam, 1993; Landes, 1998). Indeed, La Porta *et al.* (1999) provide some evidence that predominantly Protestant countries tend to have better government performance than either predominantly Catholic or Muslim countries. Therefore, we include in the list of controls the share of population in each country that is Protestant, Roman Catholic or Muslim.

We also regress our measure of quality of government on a number of geographical characteristics. Thus, we consider the impact of absolute latitude, as temperate zones tend to have warmer climates and more productive agricultures, which has historically enabled them to develop their economies and their institutional frameworks (La Porta *et al.*, 1999). Likewise, the effectiveness of government policies may be related to country size or the existence of a topographically uneven territory (Olsson and Hanson, 2011; Alesina and Zhuravskaya, 2011). In fact, geography may have contributed throughout

---

[5]The full definitions of all the control variables and their sources are presented in the Appendix.

history to shaping the degree of concentration of political power (Engerman and Sokoloff, 2000; Batten and Hippe, 2017). In view of this, we additionally control for a country's area, its elevation and a measure of terrain roughness. Moreover, numerous studies show that ethnolinguistic diversity can have a negative effect on the quality of government (e.g. La Porta *et al.*, 1999; Treisman, 2000; Alesina *et al.*, 2003). Accordingly, we follow the standard approach in the literature and include in the list of regressors a traditional index of ethnolinguistic fractionalization, which measures the probability that two individuals, randomly selected from a country's population, will belong to different groups. Nevertheless, fractionalization indices do not capture other aspects of ethnolinguistic heterogeneity that may also be important for the quality of government. In particular, there are reasons to assume that the degree of polarization may be more relevant in this context than the level of fractionalization (Esteban and Ray, 2011; Desmet *et al.*, 2012). Accordingly, we also control for an index of ethnolinguistic polarization. This index quantifies the extent to which the composition of a country's population resembles a perfectly polarized distribution, in which the national population is composed of two ethnolinguistic groups of equal size.

According to the economic theory of institutions, the advances in the process of development contribute to creating a demand for good government, increasing the premium for better governance (Kaufmann and Kraay, 2002; Al-Marhubi, 2004). As is usual in the literature, we employ the level of GDP per capita as a proxy for the level of economic development in the various countries.[6] At the same time, in resource-rich countries politicians may have incentives to undermine the quality of government in or-

---

[6]The inclusion of GDP per capita in model (1) is, however, controversial, as this variable may be a proximate outcome of political equality (Acemoglu *et al.*, 2007).

der to be less constrained in the extraction of resource rents (Ades and Di Tella, 1999).
Consequently, our model also incorporates the natural resources contribution to GDP.
In turn, the opening of national borders to international markets may also be related to
government performance (Ezcurra, 2012). Moreover, in a globalized world contacts with
ideas and practices of other societies tend to generate social and cultural patterns that
may lead to improve governance (La Porta *et al.*, 2008). In view of this, we include in
the list of regressors in model (1) a measure of the degree of integration of each country
with the rest of the world, which takes into account the economic, social and political
aspects of globalization.

Table A1 in the Appendix shows several summary statistics for the different controls
just described. In the econometric analysis below we use the mean value of the measure
of quality of government over the period 2011-2015 as our dependent variable, while all
time-varying regressors (including the index of political equality) enter in the model as
their respective means during the period 2005-2010 in order to minimize any potential
simultaneity bias.[7]

4.2   Baseline results

Table 1 presents the results obtained when various versions of model (1) are estimated
by OLS with heteroskedasticity robust standard errors using data for 145 countries.[8]
The different specifications work reasonably well in accounting for the cross-country
variation in governance, with relatively good values in terms of goodness-of-fit. Focusing
on the main aim of the paper, our estimates show that the coefficient of the measure of

---

[7]See section 5 for further details on this issue.
[8]The full list of countries is included in the Appendix.

political equality is in all cases positive and statistically significant at the 1% level. This reveals that higher political equality is associated with better quality of government, which is consistent with the first hypothesis formulated in section 2 and the preliminary evidence provided by Figure 3. In fact, this result is not affected by the inclusion in the analysis of the various controls described in subsection 4.1, confirming its robustness and indicating that the observed link between political equality and governance is not a spurious correlation resulting from the omission of these covariates. This is especially relevant given that, as discussed above, several regressors included in our baseline model may be correlated with both political equality and government performance (e.g. the quality of democracy or the degree of economic inequality). The information provided by Table 1 reveals that political equality contributes to explaining the cross-country differences in governance, and is not simply capturing the effect of these variables. Figure 4 illustrates the observed link between political equality and quality of government with a partial regression plot based on all covariates.

INSERT TABLE 1 AROUND HERE

INSERT FIGURE 4 AROUND HERE

The regression coefficient from our preferred specification in Table 1 (column 5) reveals that raising the measure of political equality by one standard deviation is associated with an increase in the index of governance of around 0.11. To get a more accurate idea of the magnitude of the effect of political equality on government performance, we

consider the case of Botswana. Botswana is a country characterized by an intermediate degree of political equality ($PE = 0.52$), while its governance score is above the sample median ($QG = 0.68$). Our estimates indicate that if Botswana had an index of political equality equal to that registered for example by New Zealand ($PE = 1.18$), its governance score would increase by around 12%. These figures suggest that political equality has a quantitatively relevant impact on the quality of government.

When interpreting the results in Table 1, it is important to note that the robustness of the coefficient estimates on the measure of political equality to the inclusion of additional controls provides a first piece of evidence that omitted variables alone are not driven the observed relationship between the degree of concentration of political power across income groups and quality of government. However, although model (1) incorporates a substantial set of controls, the possibility of some omitted variable bias remains. In order to investigate the relevance of this potential problem, we now use the method proposed by Oster (2017). Building on the earlier work of Altonji *et al.* (2005), this approach employs the selection on the observed explanatory variables as a guide on the degree of selection on unobserved variables. In particular, Oster (2017) uses coefficient stability and R-squared movements when the various controls are introduced in the model to assess whether the estimation results are robust to omitted variable bias. Following Oster (2017), we calculate how important the degree of selection on unobserved variables would have to be relative to observed variables in order to eliminate the observed effect of political equality on the quality of government, under the strictest assumption that if both observed and unobserved controls were included in the model the R-squared would be one. In our analysis we compare the model with the full set of controls (column 5 in Table 1) with a restricted version which only includes as controls the measures of

17

political equality, democracy and economic inequality, as well as regional fixed effects. The results indicate that the degree of selection on unobservables relative to observables is 1.25. This implies that the unobservables would have to be more important than observables in order to explain away the effect of political equality. Given that our choice of controls is based on the findings of the literature on the determinants of governance (see subsection 4.1), this result increases our confidence that the observed relationship between political equality and the quality of government is not driven by unobserved heterogeneity.

With respect to the various controls included in model (1), the results are in general consistent with those obtained by other authors. Our estimates show that larger countries exhibit inferior government performance. At the same time, the information provided by Table 1 reveals that GDP per capita and the degree of integration with the rest of the world are positively associated with the quality of government. Moreover, there is some evidence that natural resources abundance exerts a negative effect on governance outcomes. Finally, our findings also point to the existence of a positive link between democracy and mean elevation and quality of government, while the impact of the degree of ethnolinguistic polarization would be negative. Nevertheless, these results should be treated with some caution because the coefficients of these covariates are not statistically significant consistently across the various specifications included in Table 1.

4.3 Robustness checks

So far our analysis has revealed the existence of a positive and statistically significant relationship between political equality and quality of government. In this subsection we

explore the robustness of this finding.

Outliers and influential observations

As a first robustness test, we examine the potential impact of outliers and influential observations on our estimates. To do so, we begin by calculating each country's DF-BETA statistic for the index of political equality, which is a measure of the difference in the estimated coefficient for this variable (scaled by the estimated standard error of the coefficient) when the country in question is included and when it is excluded from the sample. According to the rule of thumb proposed by Belsley *et al.* (1980), we remove from the analysis all countries for which $|DFBETA| > 2/\sqrt{n}$, where n is the sample size. When this cut-off is applied, 13 countries are influential in the specification of model (1) with the full set of controls (column 5 in Table 1). The first column in Table 2 shows that the coefficient of the measure of political equality continues to be positive and statistically significant once these countries are dropped from the analysis. In order to confirm this finding, we also use robust regression as an alternative way to identify the possible influence of potential outliers (Berk, 1990). Column 2 of Table 2 reveals that the observed link between the degree of concentration of political power across income groups and quality of government still holds when this method is used to estimate model (1).

<center>INSERT TABLE 2 AROUND HERE</center>

We now investigate the impact on the results of the countries with the lowest and highest levels of political equality and quality of government. To that end, we remove

from the sample those countries whose measures of political equality and governance are below (above) the 10th (90th) percentile of the distribution of these variables. Columns 3-6 of Table 2 show that dropping these countries does not affect the observed association between political equality and government performance. Furthermore, column 7 of Table 2 presents the results for an alternative subset of countries which excludes dictatorships, defined as countries with an average Polity IV democracy score less than -5 over the period 2005-2010. This may be important, as autocratic regimes tend to be generally characterized by low levels of political equality and quality of government. Nevertheless, the estimates reveal that our results are not driven by dictatorships.

Alternative measures of quality of government

The findings in Table 1 may also be sensitive to the choice of the measure employed to quantify the quality of government in the various countries. For this reason, we begin by exploring the effect on the results of employing an alternative aggregate measure of governance based on the average of the six WGI indices (Easterly and Levine, 2003; Ezcurra and Rodríguez-Pose, 2017). We also examine whether our results hold for each of the six WGI indices, which capture different aspects institutional quality. Next, we employ an alternative indicator of quality of government equal to the average value of the International Country Risk Guide (ICRG) indices of corruption, law and order and bureaucratic quality. We also use two measures of rule of law taken respectively from the V-Dem project and Freedom House, as well as a corruption perception index provided by Transparency International. Table 3 shows the results obtained when model (1) is estimated again using these alternative measures of governance as dependent variable. With the only exception of the index of regulatory quality, in all cases there

is a positive and statistically significant association between political equality and the various measures of quality of government, which reinforces the robustness of our results.

INSERT TABLE 3 AROUND HERE

Alternative estimation strategies

As is usual in the literature on the determinants of quality of government, our analysis is based on the estimation of a cross-sectional model (e.g. La Porta *et al.*, 1999; Treisman, 2000, 2007; Al-Marhubi, 2004; Alesina and Zhuravskaya, 2011). This is reasonable since the levels of quality of government tend to be very persistent during the study period and many of the controls included in vector X are time-invariant. Nevertheless, one may exploit the panel dimension of the data in order to maximize the degrees of freedom, thus reducing the collinearity among the regressors and improving the efficiency of the estimates (Kelejian *et al.*, 2013). For this reason, we now estimate model (1) using pooled OLS with annual data for the period 1996-2015.[9] As can be seen in Table 4, the coefficient of the measure of political equality continues to be positive and statistically significant when we use this alternative estimation strategy.

INSERT TABLE 4 AROUND HERE

---

[9]At this point, one may also consider the possibility of including country fixed effects. However, controlling for country fixed effects is not appropriate in our case, as most of the variation experienced by the key independent variable, the measure of political equality, is between countries rather than over time. In fact, the information provided by an ANOVA model reveals that in our sample 91% of the variation in the political equality data is due to variations across countries. As pointed out by Partridge (2005, pp. 371-372), in this type of situation fixed effects models leave what is most important in the data unexplained and may consequently produce inaccurate results.

As pointed out in section 3, the Gini indices used to quantify the degree of economic inequality within the various countries were taken from the SWIID. According to Solt (2016), the SWIID allows one to maximize the comparability of available income inequality data for the greatest possible number of countries and years. Although this dataset is not free of criticisms, "those pursuing research on income inequality across many countries [...] will often find that the SWIID is their best choice of data source" (Solt, 2015, p. 690). In order to minimize the gaps in the database, the SWIID employs multiple imputation methods to recover missing values. Consequently, this dataset includes 100 Gini indices for each country-year. As is usual in the literature (e.g. Kotschy and Sunde, 2017), our previous analyses use the mean Gini index for each country-year. Nevertheless, Table 5 shows the results obtained when model (1) is estimated taking the multiple imputation of the Gini indices into account. As can be seen, the relationship between political equality and quality of government still holds, confirming once again the robustness of our findings.

INSERT TABLE 5 AROUND HERE

5   Endogeneity of political equality

When interpreting the earlier results, it is important to consider the possible endogeneity of political equality in this context. As discussed above, the existence of measurement error and omitted variable bias may affect our analysis. Moreover, political equality may exert an effect on governance outcomes and, in turn, be affected by them, giving rise to

a reverse causality problem. In the previous analysis we have addressed this issue using lagged values of the measure of political equality to explain the variation in quality of government. However, this may not be enough due to the high degree of persistence of the measures of quality of government and political equality over the study period. In view of this, we now deal with the potential endogeneity of political equality by means of an instrumental variable (IV) approach. To do so, we need an appropriate instrument for the degree of political equality, which must not be correlated with the error term in model (1) but account for the cross-country differences in political equality.

Our IV strategy exploits the variation in political equality in geographically neighbouring countries. Specifically, we use as instrument the weighted mean of the level of political equality in geographically neighbouring countries. To calculate this mean, the values of the measure of political equality are weighted by a spatial weights matrix, W, which describes how the countries in the sample are spatially interconnected. In particular, W is defined as follows:

$$W = \begin{cases} w_{ij} = 0 & \text{if } i = j \\ w_{ij} = \frac{1/d_{ij}}{\sum\limits_{j} 1/d_{ij}} & \text{if } i \neq j \end{cases} \qquad (2)$$

where d_{ij} is the great-circle distance between the capitals of countries i and j, which in itself is strictly exogenous. As can be checked in expression (2), W is row standardized, so that it is relative and not absolute distance which matters. The rationale for using this instrument is based on the idea that the gradual spreading of values and norms across countries influences on the citizens' attitudes towards the way in which authority is exercized by governments, thus shaping the demand for political equality (Klasing,

2013; Beugelsdijk and Klasing, 2016). These spatial spillovers are more likely between neighbouring countries, as they often share similar cultural and historical backgrounds, and have close informational ties (Persson and Tabellini, 2009; Aidt and Jensen, 2014). This suggests that the degree of political equality in a given country should be affected by the levels of political equality in neighbouring countries. Our identification strategy is similar to the approach adopted by several recent studies in which the strength of democracy in neighbouring countries is used as instrument for democracy (e.g. Madsen *et al.*, 2015; Acemoglu *et al.*, 2019; Krieger, 2019).

INSERT FIGURE 5 AROUND HERE

Figure 5 reveals the existence of a positive and strong link between domestic political equality and the average of neighbouring countries. In fact, the instrument alone explains around 22% of the cross-country variation in political equality. In order to confirm the relevance of the instrument, we estimate the standard first stage regressions. As can be observed in Table 6, the coefficient of the degree of political equality in neighbouring countries is in all cases positive and statistically significant at the 1% level, regardless of the controls considered. Indeed, the first stage F-statistics for the excluded instrument are in all regressions above the threshold of 10 suggested by Staiger and Stock (1997) when there is a single endogenous regressor, thus confirming the strength of the instrument.[10]

---

[10]As we discuss below in greater detail, the results of the first stage regressions in Table 6 should be treated with caution because of the inclusion of the degree of political inequality in neighbouring countries in the list of regressors leads to bias in OLS estimates. Nevertheless, the relevance of the instrument remains unaltered if we address this problem using alternative estimation methods. See Table A2 for further details.

To be a valid instrument, however, political equality in neighbouring countries should not affect the quality of government in any given country, beyond its impact on the level of political equality in the country in question. This exclusion restriction cannot be formally tested in the absence of other instruments. Nevertheless, one may argue that the degree of political equality in neighbouring countries could have influence on their governance outcomes, which may in turn affect domestic quality of government. In fact, the empirical evidence provided by Seldadyo *et al.* (2010) and Kelejian *et al.* (2013) shows that governance in one country exhibits a positive and statistically significant relationship with governance in neighbouring countries. In view of this, we should control for the (weighted) average of the quality of government in neighbouring countries in order to capture the possible existence of direct spatial spillovers in terms of governance. The inclusion of this additional regressor means that our baseline model becomes a spatial autoregressive (SAR) model, as it incorporates a spatial lag of the dependent variable as a covariate. As is well known in the spatial econometrics literature, the presence of a spatial lag of the dependent variable in the list of regressors is endogenous to the model, since it implies simultaneous spatial interactions (Anselin, 1988). In order to overcome this difficulty, we resort to the generalized spatial two stage least squares (GS2SLS) estimator derived by Kelejian and Prucha (1998, 1999) and extended by Arraiz *et al.* (2010) and Drucker *et al.* (2013), which implements a multistep estimation strategy based on the generalized method of moments (GMM) and IV to provide consistent estimates of the coefficients of the model.[11]

---

[11]See Arraiz *et al.* (2010) or Drucker *et al.* (2013) for further technical details on the estimation method.

Table 7 shows the results obtained when the SAR model just described is estimated by GS2SLS for the case of heteroskedasticity of unknown form in the error term. Following our identification strategy, in all regressions we include the degree of political equality in neighbouring countries as instrument for the domestic level of political equality. Our estimates reveal that government performance in one country is not affected by governance in neighbouring countries, which contrasts with the findings obtained by Seldadyo *et al.* (2010) and Kelejian *et al.* (2013). Turning our attention to the main aim of the paper, the information provided by Table 7 shows that the coefficient of the measure of political equality remains in all cases positive and statistically significant. This confirms that political equality exerts a positive and significant impact on government quality, which supports the first hypothesis proposed in section 2. Indeed, if we compare the estimates in Table 7 with the earlier OLS regressions in Table 1, we observe that the coefficient estimates of the measure of political equality are very similar in size.

At this point it is important to note that the presence of the quality of government in neighbouring countries in the list of regressors complicates the interpretation of the coefficient estimates in a SAR model. As shown by LeSage and Pace (2009, pp. 33-42), in this type of model a change in a particular explanatory variable in country i has a direct effect on the dependent variable in that country, but also an indirect effect on the remaining countries. The total effect is the sum of the direct and indirect effect. Table 8 shows these effects calculated from the SAR model with the full set of controls. The results reveal that the total effects are clearly driven by the direct effects, whereas the indirect effects are in all cases considerably smaller and non-significant. Accordingly, the

total effect of political equality on government quality is very similar to the coefficient estimate in column 5 of Table 7.

INSERT TABLE 8 AROUND HERE

The results in Tables 7 and 8 may be sensitive to the method employed to construct the instrument. In order to explore this issue, we now recalculate the instrument using different cut-off values (2,000, 3,000, 4,000, 5,000, 6,000 and 7,000 kilometres) above which spatial interactions between countries are assumed to be negligible. The results of this robustness test are presented in Tables A3 and A4. As can be checked, the observed impact of political equality on the quality of government holds in all cases.

A potential transmission channel: The role of education

In order to complement our previous findings, in this section we present an exploratory analysis about why the degree of concentration of political power across income groups should affect the quality of government. According to the theoretical framework in section 2, our hypothesis is that education is a plausible transmission channel linking political equality and governance. Therefore, we now aim to examine whether education can mediate the positive reduced-form cross-country relationship found between political equality and quality of government. To do so, we use a measure of education drawn from the V-Dem dataset, which captures to what extent is high quality basic education guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens. This measure of education is particularly appropriate in our context because, unlike

other possible alternatives, it takes explicitly into account the quality of education and its role in promoting political development.

We begin our analysis by investigating the link between political equality and education. The information provided by columns 1-4 of Table 9 reveals that countries with a higher degree of political equality are characterized by a greater level of education of the population, which is consistent with the various arguments laid down in section 2. In view of these results, we now include in our baseline model the measure of education. If education were a valid transmission channel, the inclusion of this additional control should reduce the effect of political equality on the quality of government, in terms of coefficient size and/or its statistical significance. Columns 5 and 6 of Table 9 present the results of the analysis. As can be seen, there is a positive and statistically significant association between education and governance, conditional on political equality and the remaining covariates. Nevertheless, the inclusion of education in the list of controls affects the observed relationship between political equality and government performance. Our estimates in column 5 indicate that, once education is controlled for, the coefficient of the measure of political equality remains positive, but its effect on the quality of government is only significant at the 10% level. At the same time, the quantitative importance of political equality as a predictor of governance outcomes experiences a decrease of 39% in comparison with the estimates in column 5 of Table 1. When we treat the measure of political equality as endogenous in column 6 of Table 9, the decline is even larger (52%) in comparison with the results in column 5 of Table 7. Indeed, in this case the degree of political equality does not exert a statistically significant impact on the quality of government.[12]

_____

[12]This result is confirmed if we calculate the corresponding direct, indirect and total effects. See Table

28

Consistently with the second hypothesis formulated in section 2, these findings reveal the role of education as a transmission channel linking political equality and quality of government. However, the exploratory nature of the analysis implies that the information provided by Table 9 should be treated with some caution. In particular, it is important to note that education may itself be potentially endogenous (Fortunato and Panizza, 2015). Accordingly, in order to assess more conclusively the importance of our hypothesized transmission channel, one should exploit an independent exogenous source of variation for the measure of education, a task that we leave open for future research.

6 Conclusions

In this paper we have examined the relationship between political equality and quality of government. Our hypothesis is that political equality fosters access to inclusive education and ultimately promotes good governance. We empirically test this hypothesis using data for 145 countries with different levels of economic development. In order to overcome potential endogeneity problems, our identification strategy exploits the variation in political equality in geographically neighbouring countries by means of spatial econometric techniques. The results reveal a positive and statistically significant effect of political equality on the quality of government. This implies that countries where the political power is more evenly distributed tend on average to have higher levels of institutional quality, which is consistent with our theoretical framework. In fact, this

---

A5 for further details.

result is not affected by the inclusion in the analysis of a substantial number of controls that may be correlated with both political equality and quality of government, including the level of democracy and the degree of economic inequality. In fact, the observed link between political equality and governance remains robust to alternative measures of quality of government, estimation techniques, and other sensitivity checks. Our estimates also show that education acts as a transmission channel linking political equality and quality of government.

Nowadays there is a wide consensus on the importance of the quality of government for economic growth and long-run development, which explains why governance has figured prominently in the international development agenda over the last years. Against this background, the results of the paper raise some potentially interesting implications. Specifically, our research reveals that the degree of concentration of political power across income groups is a strong predictor of the quality of government, thus underlining the relevance of political equality in this context. This implies that, although intervention strategies in this context cannot be based on a "one size fits all" framework, policy-makers at the national level and international organizations concerned with the promotion of good governance should not overlook how the political power is distributed across income groups. In any case, increasing the degree of political equality may not be an easy task, as it is likely that the political elites have incentives to oppose any reform that threaten the *status quo*.

Additional extensions to our work are not difficult to conceive. Thus, the present paper has documented the unconditional effect of political equality on the quality of government. Nevertheless, the impact of the degree of concentration of political power

across income groups on governance may be contingent on factors such as the level of development or the quality of democracy. Further research should explore the empirical relevance of these potential interaction effects in order to complete our results. Moreover, the analysis in the paper has highlighted the importance of education as a mediating variable between political equality and quality of government. Nevertheless, it would be interesting to examine the possible existence of other transmission channels linking the degree of concentration of political power and governance. Only by addressing these issues we will be able to attain a fuller understanding of the nature of the relationship between political equality and quality of government.

References

Acemoglu, D. and Robinson, J.A. (2019): *The Narrow Corridor.* Penguin Press, New York.

Acemoglu, D., Bautista, M.A., Querubín, P. and Robinson, J.A. (2007): Economic and political inequality in development: The case of Cundinamarca, Colombia. Working Paper 13208, National Bureau of Economic Research.

Acemoglu, D., Johnson, S. and Robinson, J.A. (2001): The colonial origins of comparative development: An empirical investigation, *American Economic Review* 91 (5), 1369-1401.

Acemoglu, D., Johnson, S. and Robinson, J.A. (2002): Reversal of fortune: Geography and institutions in the making of the modern world income distribution, *Quarterly*

Journal of Economics 117 (4), 1231-1294.

Acemoglu, D., Naidu, S., Restrepo, P. and Robinson, J.A. (2019): Democracy does cause growth, *Journal of Political Economy* 127 (1), 47-100.

Acemoglu, D., Johnson, S. and Robinson, J.A. (2005): Institutions as a fundamental cause of long-run growth. In P. Aghion and S. Durlauf (eds.): *Handbook of Economic Growth*, pp. 385-472. Elsevier, Amsterdam.

Ades, A. and Di Tella, R. (1999): Rents, competition, and corruption, *American Economic Review* 89 (4), 982-993.

Aidt, T.S. and Jensen, P.S. (2014): Workers of the world, unite! Franchise extensions and the threat of revolution in Europe, 1820-1938, *European Economic Review* 72, 52-75.

Al-Marhubi, F. (2004): The determinants of governance: a cross-country analysis, *Contemporary Economic Policy* 22 (3), 394-406.

Alesina, A. and Giuliano, P. (2011): Family ties and political participation, *Journal of the European Economic Association* 9 (5), 817-839.

Alesina, A. and Zhuravskaya, E. (2011): Segregation and the quality of government in a cross section of countries, *American Economic Review* 101 (5), 1872-1911.

Alesina, A., Devleeschauwer, A., Easterly, W., Kurlat, S. and Wacziarg, R. (2003): Fractionalization, *Journal of Economic Growth* 8 (2), 155-194.

Almond, G. and Verba, S. (1989, 1963): The civic culture: Political attitudes and democracy in five nations. Sage, Newbury Park.

Altonji, J.G., Elder, T.E. and Taber, C.R. (2005): Selection on observed and unobserved variables: Assessing the effectiveness of catholic schools, *Journal of Political Economy* 113 (1), 151-184.

Anselin, L. (1988): *Spatial Econometrics: Methods and Models.* Kluwer Academic Publishers, Dordrecht.

Arraiz, I., Drukker, D.M., Kelejian, H.H. and Prucha, I.R. (2010): A spatial Cliff-Ord- type model with heteroskedastic innovations: Small and large sample results, *Journal of Regional Science* 50 (2), 592-614.

Baten, J. and Hippe, R. (2018): Geography, land inequality and regional numeracy in Europe in historical perspective, *Journal of Economic Growth* 23, 79-109.

Belsley, D. Kuh, E. and Welsch, R. (1980): *Regression Diagnostics.* John Wiley, New York.

Berk, R.A. (1990): A primer on robust regression. In J. Fox and J.S. Long (eds.): *Modern Methods of Data Analysis*, pp. 292-324. Sage, Newbury Park (CA).

Beugelsdijk, S. and Klasing, M.J. (2016): Diversity and trust: The role of shared values, Journal of Comparative Economics 44 (3), 522-540.

Bjørnskov, C., Dreher, A. and Fischer, J. (2010): Formal institutions and subjective well-being: revisiting the cross-country evidence. *European Journal of Political Economy* 26 (4), 418-430.

Bourguignon, F. and Verdier, T. (2000): Oligarchy, democracy, inequality and growth, *Journal of Development Economics* 62 (2), 285-313.

Charron, N. and Lapuente, V. (2018): Does democracy produce quality of government?, *European Journal of Political Research* 49 (4), 443-470.

Coatsworth, J.H. (1998): Economic and institutional trajectories in nineteenth-century Latin America. In J.H. Coatsworth and A.M. Taylor (eds.): *Latin America and the World Economy Since 1800*, pp. 23-54. Harvard University Press, Cambridge (MA).

Coppedge, M., Gerring, J., Knutsen, C.H., Lindberg, S.I. et al. (2018a): V-Dem codebook v8. Varieties of Democracy (V-Dem) Project.

Coppedge, M., Gerring, J., Knutsen, C.H., Lindberg, S.I. et al. (2018b): V-Dem methodology v8. Varieties of Democracy (V-Dem) Project.

Dahl, R. (1971): *Polyarchy, Participation and Opposition.* Yale University Press, New Haven.

Desmet, K., Ortuño-Ortín, I. and Wacziarg, R. (2012): The political economy of linguistic cleavages, *Journal of Development Economics* 97, 322-338.

Dijkstra, G. (2018): Aid and good governance: Examining aggregate unintended effects of aid, *Evaluation and Program Planning* 68, 225-232.

Drukker, D.M., Egger, P. and Prucha, I.R. (2013): On two-step estimation of a spatial autoregressive model with autoregressive disturbances and endogenous regressors, *Econometric Reviews* 32 (5-6), 686-733.

Easterly, W. and Levine, R. (2003): Tropics, germs, and crops: how endowments influence economic development, *Journal of Monetary Economics* 50 (1), 3-39.

Engerman, S. and Sokoloff, K.L. (2000): Institutions, factor endowments, and paths of development in the New World, *Journal of Economic Perspectives* 14 (3), 217-232.

Esteban, J. and Ray, D. (2011): Linking conflict to inequality and polarization, *American Economic Review* 101 (4), 1345-1374.

Ezcurra, R. (2012): Is there a link between globalization and governance?, *Environment and Planning C: Government and Policy* 30, 848-870.

Ezcurra, R. and Rodríguez-Pose, A. (2017): Does ethnic segregation matter for spatial inequality?, *Journal of Economic Geography* 17 (6), 1149-1178.

Fortunato, P. and Panizza, U. (2015): Democracy, education and the quality of government, Journal of Economic Growth 20, 333-363.

Galor, O., Moav, O. and Vollrath, D. (2009): Inequality in landownership, the emergence of human-capital promoting institutions, and the Great Divergence, *Review of Economic Studies* 76, 143-179.

Glaeser, E.L., La Porta, R., Lopez-de-Silanes, F. and Schleifer, A. (2004): Do Institutions Cause Growth?, *Journal of Economic Growth* 9, 271-304.

Goñi, M. (2016): Landed elites and education provision in England and Wales. Evidence from School Boards, 1870-99. Working Paper University of Vienna.

Gray, R. and Clark, G. (2014): Geography is not destiny: geography, institutions and literacy in England, 1837-1863, Oxford Economic Papers 66 (4), 1042-1069.

Hall, R.R. and Jones, C.I. (1999): Why do some countries produce so much more output per worker than others? *Quarterly Journal of Economics* 114 (1), 83-116.

Helliwell, J.F., Huang, H., Grover, S. and Wang, S. (2018): Empirical linkages between good governance and national well-being, *Journal of Comparative Economics* 46, 1332-1346.

Houle, C. (2018): Does economic inequality breed political inequality?, *Democratization* 25 (8), 1500-1518.

Huber, E., Rueschemeyer, D. and Stephens, J., 1993. The impact of economic development on democracy. Journal of Economic Perspectives 7 (3), 71-86.

Kaufmann, D. and Kraay, A. (2002): Growth without governance, *Economía* 3 (1), 169-229.

Kaufmann, D., Kraay, A. and Zoido-Lobatón, P. (1999): Governance matters. World Bank Policy Research Working Paper 2196, World Bank.

Kelejian, H.H. and Prucha, I.R. (1998): A generalized spatial two-stage least squares procedure for estimating a spatial autoregressive model with autoregressive disturbances, *Journal of Real Estate Finance and Economics* 17 (1), 99-121.

Kelejian, H.H. and Prucha, I.R. (1999): A generalized moments estimator for the autoregressive parameter in a spatial model, *International Economic Review* 40 (2), 509-533.

Kelejian, H.H., Murrell, P. and Shepotylo, O. (2013): Spatial spillovers in the development of institutions, *Journal of Development Economics* 101, 297-315.

Klasing, M.J. (2013): Cultural dimensions, collective values and their importance for institutions, *Journal of Comparative Economics* 41, 447-467.

Knack, S. and Keefer, P. (1995): Institutions and economic performance: Cross-country tests using alternative institutional measures, *Economics and Politics* 7 (3), 207-227.

Kotschy, R. and Sunde, U. (2017): Democracy, inequality, and institutional quality, *European Economic Review* 91 (C), 209-228.

Krieger, T. (2019): Democracy and institutional quality: Theory and evidence. Unpublished manuscript.

Landes, D. (1998): *The Wealth and Poverty of Nations.* W. W. Norton, New York.

La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2008): The economic consequences of legal origins, *Journal of Economic Literature* 46 (2), 285-332.

La Porta, R., Lopez-De-Silanes, F., Shleifer, A. and Vishny, R. W. (1999): The quality of government, *Journal of Law, Economics and Organization* 15 (1), 222-279.

LeSage, J. and Pace, R.K. (2009): *An Introduction to Spatial Econometrics.* Chapman and Hall, Boca Raton (FL).

Lipset, S.M. (1959): Some social requisites of democracy: Economic development and political legitimacy, *The American Political Science Review* 53 (1), 69-105.

Madsen, J.B., Raschky, P.A. and Skali, A. (2015): Does democracy drive income in the world, 1500-2000?, *European Economic Review* 78, 175-195.

Milligan, K., Moretti, E. and Oreopoulos, P. (2004): Does education improve citizenship? Evidence from the US and the UK, *Journal of Public Economics* 88 (3), 1667-1695.

North, D. (1981): *Growth and Structural Change.* W. W. Norton, New York.

Nugent J.B. and Robinson, J.A. (2002): Are endowments fate?, Discussion Paper No. 3206, CEPR.

Ostrom, E. (2006): A frequently overlooked precondition of democracy: Citizens knowledgeable about and engaged in collective action. In G. Brennan (Ed.): *Preconditions of Democracy*, the Tampere club series, vol. 2, pp. 75-89. Tampere University Press, Tampere.

Olsson, O. and Hansson, G. (2011): Country size and the rule of law: Resuscitating Montesquieu, *European Economic Review* 55 (5), 613-629.

Oster, E. (2017): Unobservable selection and coefficient stability: Theory and evidence, Journal of Business & Economic Statistics, forthcoming.

Partridge, M.D. (2005): Does income distribution affect U.S. state economic growth?, *Journal of Regional Science* 45 (2), 363-394.

Persson, T. and Tabellini, G. (2009): Democratic capital: The nexus of political and economic change, American Economic Journal: Macroeconomics 1 (2), 88-126.

Putnam, R. (1993): *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton University Press, Princeton (NJ).

Quibria, M.G. (2006): Does governance matter? Yes, no or maybe: Some evidence from developing Asia, *Kyklos* 59 (1), 99-114.

Rodrik, D., Subramanian, A. and Trebbi, F. (2004): Institutions rule: The primacy of institutions over geography and integration in economic development, *Journal*

of Economic Growth 9, 131-165.

Seldadyo, J., Elhorst, P. and De Haan, J. (2010): Geography and governance: Does space matter?, *Papers in Regional Science* 89 (3), 625-640.

Solt, F. (2015): On the assessment and use of cross-national income inequality data-sets, *Journal of Economic Inequality* 13 (4),683-691.

Solt, F. (2016): The Standardized World Income Inequality Database, *Social Science Quarterly* 97 (5), 1267-1281.

Staiger, D. and Stock, J.H. (1997): Instrumental variables regression with weak instruments, *Econometrica* 65 (3), 557-586.

Sunde, U., Cervellati, M., Fortunato, P. (2008): Are all democracies equally good? The role of interactions between political environment and inequality for rule of law, *Economics Letters* 99 (3), 552-556.

Treisman, D. (2000): The causes of corruption: a cross-national study, *Journal of Public Economics* 76 (3), 399-457.

Treisman, D. (2007): What have we learned about the causes of corruption from ten years of cross- national empirical research?, *Annual Review of Political Science* 10, 211-244.

Figures and Tables

Figure 1: Democracy and political equality
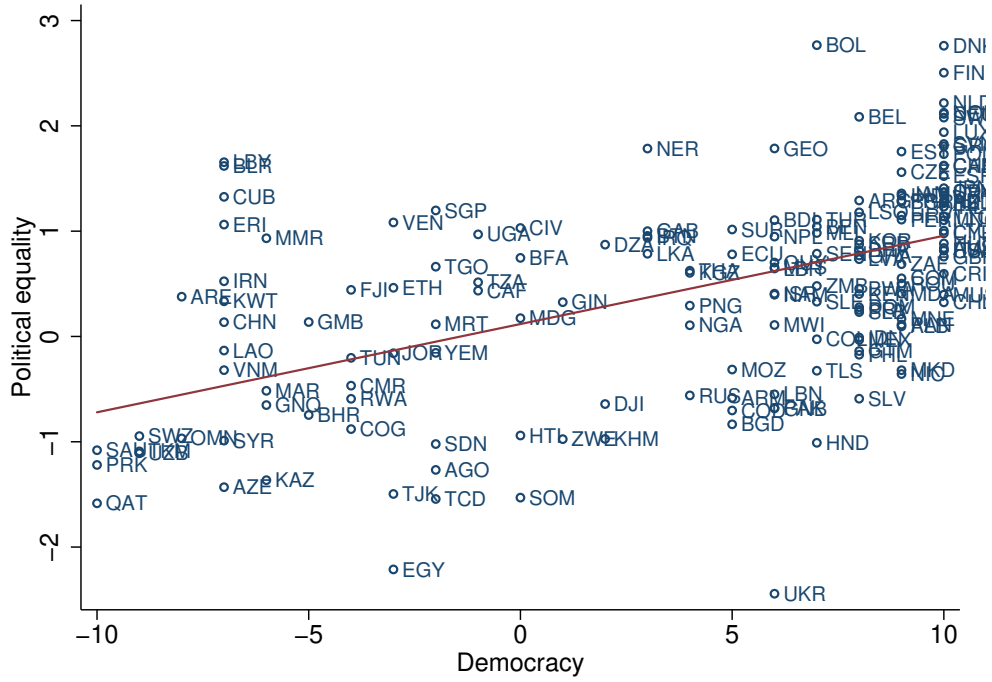
Figure 2: Economic inequality and political equality
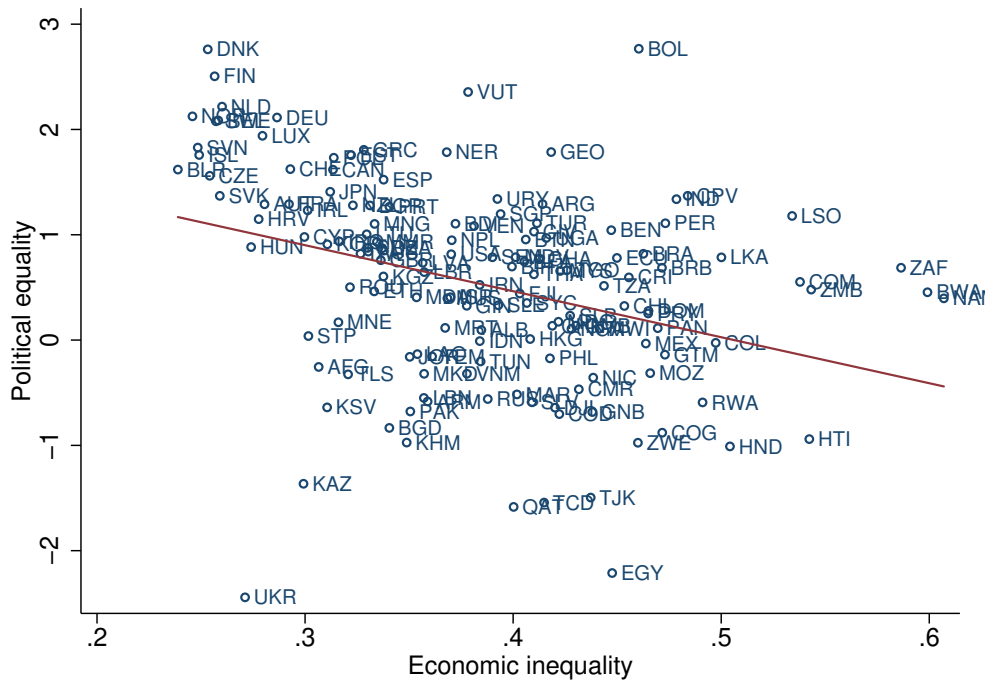
Figure 3: Political equality and quality of government: Preliminary evidence.
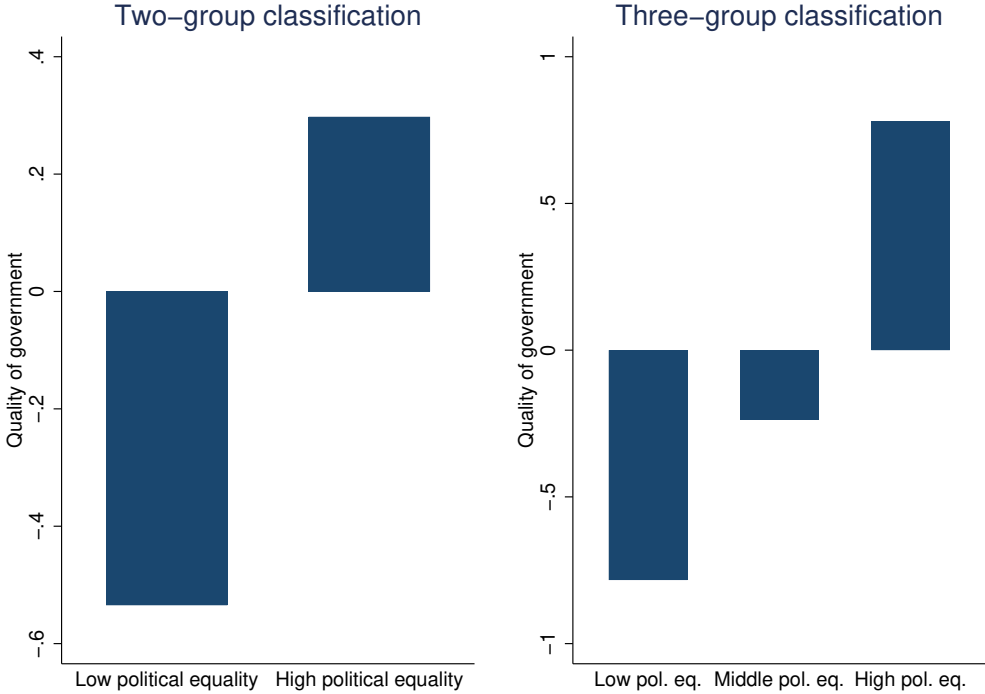
Figure 4: Political equality and quality of government: Partial regression plot.

coef = 0.111, (robust) se = 0.041
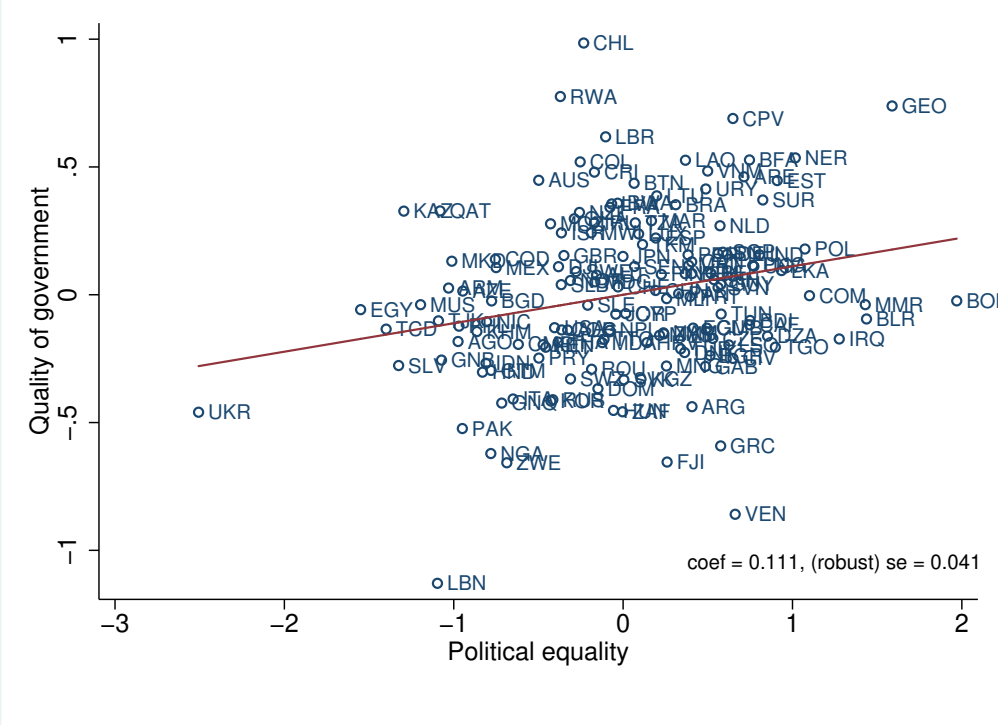
Figure 5: Political equality: Do neighbouring countries matter?.
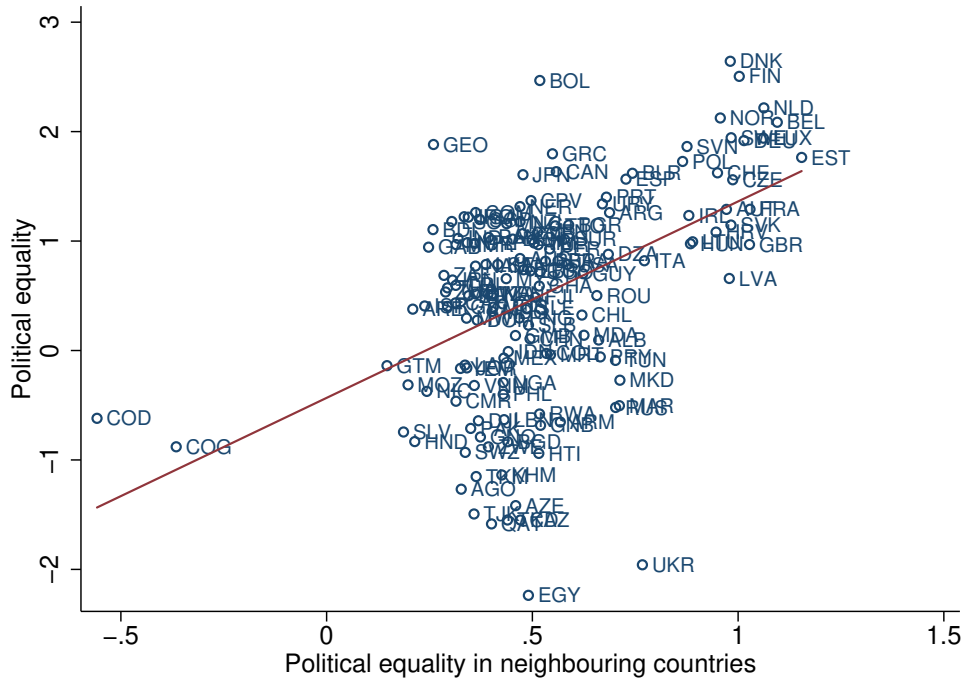
Table 1: Political equality and quality of government: OLS regressions.

	(1)	(2)	(3)	(4)	(5)
Political equality	0.202***	0.132**	0.188***	0.147***	0.111***
	(0.064)	(0.053)	(0.066)	(0.044)	(0.041)
Democracy	0.023	0.038***	0.017	0.004	0.015*
	(0.014)	(0.011)	(0.015)	(0.008)	(0.008)
Economic inequality	0.869	0.274	0.488	1.041	0.352
	(0.993)	(0.736)	(0.999)	(0.701)	(0.664)
English legal origin	-0.448	-0.269	-0.384	-0.243	-0.151
	(0.405)	(0.304)	(0.402)	(0.252)	(0.233)
French legal origin	-0.772*	-0.405	-0.704	-0.292	-0.170
	(0.464)	(0.343)	(0.459)	(0.294)	(0.274)
German legal origin	-0.184	-0.088	-0.158	0.081	0.076
	(0.361)	(0.279)	(0.355)	(0.208)	(0.205)
Socialist legal origin	-1.535***	-0.837***	-1.438***	-0.442	-0.287
	(0.442)	(0.310)	(0.438)	(0.281)	(0.265)
Former colony	0.414**	0.374**	0.333*	0.117	0.124
	(0.177)	(0.173)	(0.189)	(0.148)	(0.160)
Protestant	-0.522	-0.090	-0.327	0.317	0.462
	(0.556)	(0.387)	(0.562)	(0.333)	(0.323)
Catholic	0.169	-0.084	0.217	-0.081	-0.121
	(0.181)	(0.180)	(0.181)	(0.171)	(0.171)
Muslim	-0.251	0.029	-0.210	0.001	0.121
	(0.191)	(0.164)	(0.190)	(0.164)	(0.158)
Latitude	0.024***	0.015**	0.021***	0.011**	0.008
	(0.007)	(0.006)	(0.007)	(0.005)	(0.005)
Surface (log)	-0.113***	-0.116***	-0.095**	-0.109***	-0.098***
	(0.042)	(0.029)	(0.044)	(0.026)	(0.023)
Elevation	0.093	0.281**	0.080	0.144	0.232**
	(0.141)	(0.116)	(0.137)	(0.104)	(0.096)
Roughness	-0.863**	-0.839**	-0.822**	-0.255	-0.396
	(0.407)	(0.323)	(0.406)	(0.320)	(0.297)
Ethn. fractionalization	-0.229	-0.060	-0.201	-0.079	-0.003
	(0.259)	(0.216)	(0.241)	(0.182)	(0.165)
Ethn. polarization	-0.166	-0.380*	-0.138	-0.203	-0.300*
	(0.256)	(0.198)	(0.263)	(0.179)	(0.165)
GDP per capita (log)		0.396***			0.237***
		(0.070)			(0.057)
Natural resources			-0.009*		-0.007*
			(0.005)		(0.004)
Globalization				0.041***	0.029***
				(0.004)	(0.005)
Constant	1.598**	-2.279***	1.569**	-1.775***	-3.087***
	(0.756)	(0.785)	(0.727)	(0.535)	(0.669)
R-squared	0.761	0.836	0.769	0.878	0.893
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	145	145	145	145	145

Notes: The dependent variable is in all cases the measure of quality of government described in section 3. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 2: Robustness analysis: Influential countries.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Political equality	0.108***	0.104**	0.131**	0.098**	0.118**	0.117***	0.117**
	(0.039)	(0.043)	(0.056)	(0.045)	(0.049)	(0.041)	(0.049)
Democracy	0.017**	0.014	0.015	0.014*	0.011	0.015*	0.031**
	(0.008)	(0.008)	(0.009)	(0.008)	(0.010)	(0.008)	(0.013)
Economic inequality	-0.459	-0.084	0.487	0.141	0.152	0.915	0.515
	(0.592)	(0.724)	(0.747)	(0.681)	(0.688)	(0.672)	(0.744)
English legal origin	-0.026	-0.089	-0.169	-0.186	-0.239		-0.104
	(0.209)	(0.301)	(0.235)	(0.170)	(0.252)		(0.225)
French legal origin	-0.041	-0.141	-0.228	-0.210	-0.274	0.003	-0.089
	(0.244)	(0.331)	(0.272)	(0.181)	(0.283)	(0.123)	(0.269)
German legal origin	0.116	0.096	0.025		-0.005	0.365	0.102
	(0.195)	(0.315)	(0.204)		(0.207)	(0.288)	(0.200)
Socialist legal origin	-0.301	-0.290	-0.413	-0.404**	-0.461*	0.023	-0.333
	(0.253)	(0.335)	(0.255)	(0.177)	(0.271)	(0.172)	(0.268)
Former colony	0.192	0.141	0.151	0.116	0.204	0.081	0.121
	(0.163)	(0.158)	(0.164)	(0.161)	(0.157)	(0.156)	(0.185)
Protestant	0.355	0.503	0.324	0.375	0.292	0.130	0.494
	(0.310)	(0.328)	(0.323)	(0.344)	(0.326)	(0.396)	(0.310)
Catholic	-0.222	-0.094	-0.145	-0.203	-0.079	-0.130	-0.123
	(0.141)	(0.162)	(0.182)	(0.174)	(0.179)	(0.178)	(0.184)
Muslim	-0.006	0.074	-0.044	0.064	-0.002	0.092	0.097
	(0.141)	(0.163)	(0.174)	(0.155)	(0.160)	(0.147)	(0.177)
Latitude	0.008	0.007	0.009	0.006	0.007	0.005	0.006
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.005)
Surface (log)	-0.096***	-0.089***	-0.097***	-0.089***	-0.091***	-0.105***	-0.107***
	(0.022)	(0.023)	(0.025)	(0.025)	(0.023)	(0.028)	(0.027)
Elevation	0.287***	0.186**	0.230**	0.226**	0.222**	0.212**	0.284***
	(0.089)	(0.086)	(0.110)	(0.096)	(0.094)	(0.103)	(0.108)
Roughness	-0.528**	-0.326	-0.397	-0.317	-0.412	-0.377	-0.563*
	(0.220)	(0.244)	(0.294)	(0.312)	(0.279)	(0.321)	(0.305)
Ethn. fractionalization	-0.035	0.004	-0.095	-0.051	-0.109	0.094	-0.106
	(0.160)	(0.161)	(0.177)	(0.167)	(0.175)	(0.177)	(0.184)
Ethn. polarization	-0.364**	-0.239	-0.252	-0.320*	-0.215	-0.362**	-0.273
	(0.161)	(0.174)	(0.178)	(0.173)	(0.184)	(0.174)	(0.179)
GDP per capita (log)	0.246***	0.254***	0.189***	0.240***	0.276***	0.219***	0.221***
	(0.053)	(0.060)	(0.055)	(0.059)	(0.065)	(0.061)	(0.069)
Natural resources	-0.007*	-0.009**	-0.008*	-0.007*	-0.004	-0.007*	-0.008*
	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)
Globalization	0.026***	0.026***	0.029***	0.029***	0.023***	0.028***	0.028***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.007)
Constant	-2.711***	-3.037***	-2.668***	-2.943***	-2.941***	-3.141***	-2.866***
	(0.635)	(0.660)	(0.692)	(0.625)	(0.699)	(0.626)	(0.692)
Omitted observations	$|DFBETA|$ $> 2/\sqrt{n}$	None (robust reg.)	Lowest pol. equality	Highest pol. equality	Lowest qual. of govern.	Highest qual. of govern.	Dictator-ships
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.923	0.891	0.890	0.867	0.885	0.823	0.901
Observations	132	145	130	131	130	130	131

Notes: The dependent variable is in all cases the measure of quality of government described in section 3. With the exception of column (2), robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 3: Robustness analysis: Alternative measures of quality of government.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Quality of government (WGI)[a]	Voice and accountability (WGI)	Political stability (WGI)	Government effectiveness (WGI)	Regulatory quality (WGI)	Rule of law (WGI)
Political equality	0.122***	0.142***	0.142**	0.104**	0.003	0.126***
	(0.038)	(0.037)	(0.065)	(0.040)	(0.048)	(0.045)
Democracy	0.022***	0.078***	-0.004	0.011	0.034***	0.016*
	(0.008)	(0.007)	(0.014)	(0.009)	(0.008)	(0.009)
Economic inequality	0.437	-0.391	1.608	0.169	0.449	0.266
	(0.659)	(0.677)	(1.174)	(0.638)	(0.747)	(0.767)
English legal origin	-0.072	0.331*	-0.160	-0.291	-0.141	0.010
	(0.207)	(0.174)	(0.341)	(0.227)	(0.250)	(0.252)
French legal origin	-0.099	0.294	-0.207	-0.389	-0.114	-0.020
	(0.235)	(0.202)	(0.371)	(0.270)	(0.286)	(0.283)
German legal origin	0.156	0.438**	0.190	-0.056	0.033	0.284
	(0.191)	(0.171)	(0.353)	(0.191)	(0.220)	(0.222)
Socialist legal origin	-0.124	0.216	0.188	-0.402	0.048	-0.166
	(0.231)	(0.202)	(0.392)	(0.260)	(0.300)	(0.283)
Former colony	0.154	0.213*	0.213	0.139	-0.028	0.103
	(0.161)	(0.126)	(0.281)	(0.148)	(0.135)	(0.174)
Protestant	0.507*	0.658***	0.533	0.156	0.512	0.613*
	(0.277)	(0.217)	(0.471)	(0.316)	(0.334)	(0.344)
Catholic	-0.022	0.056	0.298	-0.120	-0.147	-0.081
	(0.143)	(0.120)	(0.199)	(0.170)	(0.166)	(0.178)
Muslim	0.088	0.082	-0.037	0.117	0.226	0.093
	(0.153)	(0.151)	(0.301)	(0.157)	(0.166)	(0.169)
Latitude	0.010**	0.015***	0.016**	0.003	0.000	0.009*
	(0.005)	(0.004)	(0.008)	(0.005)	(0.005)	(0.006)
Surface (log)	-0.102***	-0.035	-0.184***	-0.075***	-0.104***	-0.095***
	(0.022)	(0.022)	(0.036)	(0.021)	(0.024)	(0.026)
Elevation	0.158*	-0.027	0.050	0.301***	0.225***	0.157
	(0.090)	(0.079)	(0.140)	(0.099)	(0.082)	(0.101)
Roughness	-0.341	0.132	-0.589*	-0.391	-0.476**	-0.344
	(0.270)	(0.241)	(0.355)	(0.292)	(0.229)	(0.309)
Ethn. fractionalization	0.046	0.297**	-0.010	0.109	0.052	-0.073
	(0.156)	(0.135)	(0.290)	(0.171)	(0.166)	(0.171)
Ethn. polarization	-0.275*	-0.360**	-0.093	-0.377**	-0.298*	-0.260
	(0.153)	(0.151)	(0.273)	(0.169)	(0.178)	(0.200)
GDP per capita (log)	0.223***	0.100**	0.288***	0.318***	0.167***	0.245***
	(0.055)	(0.050)	(0.087)	(0.063)	(0.059)	(0.062)
Natural resources	-0.005	-0.005	0.000	-0.007**	-0.007*	-0.007
	(0.003)	(0.004)	(0.006)	(0.003)	(0.004)	(0.004)
Globalization	0.023***	0.016***	0.007	0.028***	0.038***	0.026***
	(0.005)	(0.004)	(0.007)	(0.005)	(0.005)	(0.006)
Constant	-2.903***	-2.756***	-2.316**	-3.642***	-2.844***	-3.231***
	(0.647)	(0.585)	(1.086)	(0.576)	(0.664)	(0.727)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.894	0.916	0.685	0.899	0.880	0.874
Observations	145	145	145	145	145	145

Notes: [a] Average of the six WGI measures: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 3: Robustness analysis: Alternative measures of quality of government (*continuation*).

	(7)	(8)	(9)	(10)	(11)
Dependent variable	Control of corruption (WGI)	Quality of government (ICRG)[b]	Rule of law (V-Dem)	Rule of law (Freedom House)	Corruption perception (Transparency International)
Political equality	0.213***	0.021**	0.107***	0.706***	3.193***
	(0.051)	(0.010)	(0.017)	(0.243)	(0.970)
Democracy	-0.001	-0.000	0.012***	0.313***	0.013
	(0.010)	(0.002)	(0.004)	(0.058)	(0.199)
Economic inequality	0.523	-0.217	0.564*	-1.438	6.343
	(0.869)	(0.183)	(0.314)	(4.246)	(17.693)
English legal origin	-0.184	-0.020	0.160*	1.945*	-7.044
	(0.294)	(0.044)	(0.087)	(1.166)	(6.065)
French legal origin	-0.156	-0.072	0.160	1.326	-6.721
	(0.354)	(0.052)	(0.110)	(1.318)	(7.167)
German legal origin	0.045	0.006	0.183**	2.192**	-2.100
	(0.305)	(0.048)	(0.089)	(1.084)	(6.030)
Socialist legal origin	-0.629*	-0.190***	0.191*	1.034	-14.716**
	(0.332)	(0.051)	(0.104)	(1.360)	(6.738)
Former colony	0.282	0.074	0.054	0.116	4.140
	(0.250)	(0.051)	(0.072)	(0.853)	(5.525)
Protestant	0.567	0.092	0.170	2.393	10.086
	(0.419)	(0.073)	(0.130)	(1.600)	(8.229)
Catholic	-0.136	0.036	0.016	0.455	-2.236
	(0.240)	(0.036)	(0.053)	(0.877)	(4.751)
Muslim	0.048	-0.016	0.044	0.415	1.834
	(0.209)	(0.040)	(0.065)	(1.006)	(4.042)
Latitude	0.018**	0.003**	0.004	0.086***	0.309**
	(0.007)	(0.001)	(0.002)	(0.027)	(0.136)
Surface (log)	-0.119***	-0.016***	-0.022**	-0.229	-2.418***
	(0.032)	(0.006)	(0.011)	(0.153)	(0.608)
Elevation	0.245*	0.085***	0.043	-0.166	5.559**
	(0.143)	(0.031)	(0.046)	(0.496)	(2.659)
Roughness	-0.375	-0.206**	-0.089	0.513	-10.593
	(0.435)	(0.093)	(0.110)	(1.365)	(8.087)
Ethn. fractionalization	-0.101	-0.009	0.099	-0.255	-1.881
	(0.231)	(0.048)	(0.081)	(0.906)	(4.207)
Ethn. polarization	-0.262	-0.014	-0.166**	-1.177	-4.276
	(0.205)	(0.048)	(0.072)	(0.934)	(4.047)
GDP per capita (log)	0.219***	0.030**	0.067***	0.637*	4.419***
	(0.081)	(0.015)	(0.023)	(0.349)	(1.455)
Natural resources	-0.006	-0.001	-0.003**	-0.031	-0.084
	(0.005)	(0.001)	(0.002)	(0.029)	(0.096)
Globalization	0.022***	0.005***	0.005***	0.052	0.506***
	(0.006)	(0.002)	(0.002)	(0.034)	(0.115)
Constant	-2.629***	0.188	-0.747***	-4.026	-6.883
	(0.947)	(0.180)	(0.266)	(3.754)	(20.022)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.836	0.889	0.791	0.838	0.840
Observations	145	121	145	145	144

Notes: [b] Average of the ICRG measures of corruption, law and order, and bureaucratic quality. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 4: Robustness analysis: Pooled OLS regressions.

	(1)	(2)	(3)	(4)	(5)
Political equality	0.187***	0.107***	0.175***	0.132***	0.096***
	(0.020)	(0.016)	(0.020)	(0.014)	(0.013)
Democracy	0.025***	0.035***	0.022***	0.009***	0.019***
	(0.005)	(0.004)	(0.005)	(0.003)	(0.003)
Economic inequality	0.740**	0.036	0.389	0.602***	-0.013
	(0.314)	(0.230)	(0.323)	(0.223)	(0.215)
English legal origin	-0.321***	-0.182**	-0.278**	-0.114*	-0.073
	(0.118)	(0.083)	(0.115)	(0.068)	(0.064)
French legal origin	-0.618***	-0.277***	-0.568***	-0.175**	-0.094
	(0.132)	(0.091)	(0.128)	(0.078)	(0.072)
German legal origin	-0.117	-0.036	-0.110	0.146**	0.106*
	(0.110)	(0.075)	(0.107)	(0.059)	(0.057)
Socialist legal origin	-1.480***	-0.742***	-1.417***	-0.450***	-0.336***
	(0.135)	(0.088)	(0.132)	(0.079)	(0.073)
Former colony	0.433***	0.347***	0.377***	0.164***	0.166***
	(0.055)	(0.054)	(0.058)	(0.045)	(0.048)
Protestant	-0.404**	0.123	-0.289*	0.387***	0.501***
	(0.169)	(0.104)	(0.164)	(0.092)	(0.084)
Catholic	0.192***	-0.009	0.204***	-0.054	-0.075
	(0.055)	(0.047)	(0.055)	(0.049)	(0.046)
Muslim	-0.255***	0.027	-0.238***	-0.028	0.068
	(0.060)	(0.054)	(0.060)	(0.053)	(0.050)
Latitude	0.025***	0.011***	0.023***	0.013***	0.008***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)
Surface (log)	-0.099***	-0.103***	-0.085***	-0.091***	-0.086***
	(0.013)	(0.008)	(0.014)	(0.008)	(0.007)
Elevation	0.104**	0.261***	0.107**	0.154***	0.229***
	(0.044)	(0.032)	(0.042)	(0.032)	(0.027)
Roughness	-0.877***	-0.786***	-0.863***	-0.213**	-0.380***
	(0.128)	(0.087)	(0.128)	(0.099)	(0.085)
Ethn. fractionalization	-0.365***	-0.162**	-0.343***	-0.119**	-0.071
	(0.083)	(0.063)	(0.078)	(0.058)	(0.052)
Ethn. polarization	-0.078	-0.228***	-0.072	-0.196***	-0.238***
	(0.084)	(0.064)	(0.083)	(0.062)	(0.057)
GDP per capita (log)		0.469***			0.269***
		(0.019)			(0.020)
Natural resources			-0.008***		-0.006***
			(0.002)		(0.001)
Globalization				0.041***	0.027***
				(0.001)	(0.002)
Constant	1.301***	-3.087***	1.300***	-2.018***	-3.391***
	(0.233)	(0.219)	(0.227)	(0.163)	(0.197)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.779	0.864	0.784	0.883	0.899
Observations	1,248	1,248	1,248	1,248	1,248

Notes: The dependent variable is in all cases the measure of quality of government described in section 3. Standard errors clustered at the country level in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 5: Robustness analysis: Multiple imputation estimation.

	(1)	(2)	(3)	(4)	(5)
Political equality	0.200***	0.131**	0.187***	0.145***	0.111***
	(0.064)	(0.053)	(0.066)	(0.044)	(0.041)
Democracy	0.023	0.038***	0.017	0.004	0.015*
	(0.014)	(0.011)	(0.015)	(0.008)	(0.008)
Economic inequality	0.776	0.248	0.433	0.930	0.313
	(1.021)	(0.794)	(1.029)	(0.706)	(0.667)
English legal origin	-0.438	-0.266	-0.377	-0.231	-0.147
	(0.403)	(0.304)	(0.400)	(0.251)	(0.233)
French legal origin	-0.762	-0.402	-0.698	-0.282	-0.166
	(0.462)	(0.343)	(0.457)	(0.294)	(0.274)
German legal origin	-0.179	-0.086	-0.155	0.086	0.078
	(0.360)	(0.279)	(0.354)	(0.208)	(0.205)
Socialist legal origin	-1.527***	-0.835***	-1.432***	-0.434	-0.284
	(0.441)	(0.310)	(0.437)	(0.281)	(0.265)
Former colony	0.415**	0.374**	0.333*	0.118	0.124
	(0.178)	(0.173)	(0.189)	(0.147)	(0.160)
Protestant	-0.516	-0.086	-0.322	0.322	0.465
	(0.556)	(0.387)	(0.561)	(0.334)	(0.323)
Catholic	0.166	-0.085	0.216	-0.085	-0.122
	(0.182)	(0.180)	(0.181)	(0.172)	(0.171)
Muslim	-0.255	0.028	-0.212	-0.005	0.120
	(0.191)	(0.165)	(0.190)	(0.164)	(0.158)
Latitude	0.024***	0.014**	0.021***	0.011**	0.008
	(0.007)	(0.006)	(0.007)	(0.005)	(0.005)
Surface (log)	-0.113***	-0.116***	-0.094**	-0.108***	-0.098***
	(0.042)	(0.029)	(0.044)	(0.026)	(0.023)
Elevation	0.094	0.282**	0.081	0.145	0.233**
	(0.141)	(0.116)	(0.137)	(0.104)	(0.096)
Roughness	-0.855**	-0.836**	-0.818**	-0.246	-0.394
	(0.407)	(0.323)	(0.405)	(0.319)	(0.297)
Ethn. fractionalization	-0.230	-0.062	-0.202	-0.080	-0.004
	(0.259)	(0.216)	(0.240)	(0.182)	(0.165)
Ethn. polarization	-0.162	-0.378*	-0.135	-0.199	-0.298*
	(0.255)	(0.198)	(0.262)	(0.179)	(0.165)
GDP per capita (log)		0.397***			0.238***
		(0.070)			(0.058)
Natural resources			-0.009*		-0.007*
			(0.005)		(0.004)
Globalization				0.041***	0.029***
				(0.004)	(0.005)
Constant	1.616**	-2.278***	1.578**	-1.752***	-3.083***
	(0.765)	(0.786)	(0.736)	(0.536)	(0.667)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	145	145	145	145	145

Notes: The estimation considers the underlying uncertainty in the inequality measures introduced by the multiple imputation procedures used by Solt (2016) in order to reduce the number of missing values in the SWIID data set. The dependent variable is in all cases the measure of quality of government described in section 3. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 6: First stage regressions.

	(1)	(2)	(3)	(4)	(5)
Political equality in	1.248***	1.232***	1.187***	1.223***	1.095***
neighbouring countries	(0.303)	(0.296)	(0.327)	(0.308)	(0.328)
Democracy	0.057***	0.062***	0.054***	0.052***	0.061***
	(0.017)	(0.018)	(0.018)	(0.018)	(0.018)
Economic inequality	-3.268**	-3.438**	-3.441**	-3.192**	-3.968**
	(1.495)	(1.455)	(1.509)	(1.528)	(1.575)
English legal origin	-0.769	-0.659	-0.728	-0.712	-0.555
	(0.464)	(0.444)	(0.468)	(0.444)	(0.454)
French legal origin	-0.928*	-0.723	-0.883*	-0.808*	-0.615
	(0.500)	(0.476)	(0.504)	(0.475)	(0.486)
German legal origin	-0.962**	-0.886**	-0.937**	-0.890**	-0.845**
	(0.427)	(0.407)	(0.428)	(0.411)	(0.410)
Socialist legal origin	-1.449***	-1.064**	-1.389***	-1.185**	-0.947*
	(0.489)	(0.466)	(0.499)	(0.480)	(0.491)
Former colony	-0.331	-0.337	-0.371	-0.394	-0.395
	(0.270)	(0.243)	(0.273)	(0.282)	(0.247)
Protestant	-0.418	-0.203	-0.307	-0.221	0.018
	(0.501)	(0.472)	(0.523)	(0.500)	(0.507)
Catholic	-0.103	-0.226	-0.073	-0.157	-0.164
	(0.347)	(0.336)	(0.346)	(0.337)	(0.334)
Muslim	-0.465	-0.316	-0.437	-0.401	-0.235
	(0.376)	(0.395)	(0.375)	(0.395)	(0.387)
Latitude	-0.001	-0.006	-0.002	-0.004	-0.008
	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)
Surface (log)	-0.016	-0.017	-0.008	-0.015	0.002
	(0.049)	(0.048)	(0.051)	(0.048)	(0.050)
Elevation	0.208	0.294	0.197	0.216	0.295
	(0.193)	(0.196)	(0.198)	(0.193)	(0.204)
Roughness	0.260	0.269	0.266	0.392	0.201
	(0.533)	(0.524)	(0.536)	(0.533)	(0.547)
Ethn. fractionalization	0.316	0.389	0.322	0.345	0.412
	(0.324)	(0.323)	(0.326)	(0.321)	(0.331)
Ethn. polarization	0.055	-0.053	0.072	0.047	-0.046
	(0.404)	(0.416)	(0.403)	(0.400)	(0.413)
GDP per capita (log)		0.192**			0.264**
		(0.092)			(0.120)
Natural resources			-0.004		-0.011
			(0.007)		(0.008)
Globalization				0.009	-0.006
				(0.008)	(0.011)
Constant	1.803*	-0.150	1.807**	1.029	-0.369
	(0.911)	(1.147)	(0.910)	(1.048)	(1.119)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
F-statistic excluded instrument	16.95***	17.37***	13.19***	15.76***	11.13***
R-squared	0.496	0.513	0.497	0.501	0.520
Observations	145	145	145	145	145

Notes: The dependent variable is in all cases the measure of political equality described in section 3. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 7: Political equality and quality of government: GS2SLS regressions.

	(1)	(2)	(3)	(4)	(5)
Political equality	0.184**	0.109*	0.183**	0.149**	0.117**
	(0.081)	(0.062)	(0.080)	(0.061)	(0.053)
Democracy	0.022*	0.037***	0.017	0.005	0.015**
	(0.013)	(0.010)	(0.014)	(0.008)	(0.007)
Economic inequality	0.856	0.246	0.501	1.043	0.354
	(0.925)	(0.696)	(0.926)	(0.648)	(0.619)
English legal origin	-0.489	-0.312	-0.399	-0.237	-0.139
	(0.384)	(0.283)	(0.379)	(0.238)	(0.217)
French legal origin	-0.821*	-0.456	-0.722*	-0.284	-0.156
	(0.435)	(0.315)	(0.428)	(0.280)	(0.256)
German legal origin	-0.223	-0.131	-0.171	0.088	0.088
	(0.333)	(0.251)	(0.330)	(0.202)	(0.196)
Socialist legal origin	-1.575***	-0.878***	-1.454***	-0.435	-0.273
	(0.414)	(0.288)	(0.411)	(0.274)	(0.250)
Former colony	0.411**	0.369**	0.335*	0.117	0.124
	(0.163)	(0.152)	(0.174)	(0.136)	(0.146)
Protestant	-0.608	-0.177	-0.362	0.330	0.486
	(0.523)	(0.358)	(0.538)	(0.320)	(0.312)
Catholic	0.123	-0.135	0.201	-0.075	-0.110
	(0.170)	(0.162)	(0.175)	(0.156)	(0.157)
Muslim	-0.268	0.012	-0.217	0.004	0.127
	(0.180)	(0.152)	(0.177)	(0.155)	(0.147)
Latitude	0.021***	0.012**	0.020***	0.012**	0.008*
	(0.007)	(0.006)	(0.007)	(0.005)	(0.005)
Surface (log)	-0.110***	-0.112***	-0.094**	-0.109***	-0.099***
	(0.039)	(0.027)	(0.040)	(0.023)	(0.021)
Elevation	0.108	0.299***	0.085	0.142	0.228***
	(0.128)	(0.104)	(0.127)	(0.095)	(0.088)
Roughness	-0.813**	-0.785***	-0.808**	-0.261	-0.406
	(0.376)	(0.295)	(0.370)	(0.292)	(0.270)
Ethn. fractionalization	-0.210	-0.038	-0.196	-0.081	-0.007
	(0.241)	(0.198)	(0.221)	(0.164)	(0.147)
Ethn. polarization	-0.183	-0.400**	-0.144	-0.201	-0.295**
	(0.237)	(0.181)	(0.243)	(0.164)	(0.150)
GDP per capita (log)		0.400***			0.237***
		(0.063)			(0.052)
Natural resources			-0.009*		-0.007**
			(0.005)		(0.004)
Globalization				0.041***	0.029***
				(0.003)	(0.004)
Quality of government in	0.319	0.339	0.102	-0.046	-0.072
neighbouring countries	(0.302)	(0.232)	(0.299)	(0.206)	(0.189)
Constant	1.639**	-2.261***	1.581**	-1.787***	-3.100***
	(0.703)	(0.731)	(0.676)	(0.515)	(0.610)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.762	0.836	0.769	0.878	0.893
Observations	145	145	145	145	145

Notes: The dependent variable is in all cases the measure of quality of government described in section 3. The estimation method is GS2SLS with heteroskedastic innovations of unknown form in the disturbance process. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table 8: Direct, indirect and total effects.

	Direct effects	Indirect effects	Total effects
Political equality	0.117**	-0.008	0.109**
	(0.053)	(0.021)	(0.046)
Democracy	0.015**	-0.001	0.014*
	(0.007)	(0.002)	(0.008)
Economic inequality	0.354	-0.024	0.331
	(0.619)	(0.075)	(0.575)
English legal origin	-0.139	0.009	-0.130
	(0.217)	(0.023)	(0.211)
French legal origin	-0.156	0.010	-0.145
	(0.256)	(0.026)	(0.248)
German legal origin	0.088	-0.006	0.082
	(0.196)	(0.023)	(0.178)
Socialist legal origin	-0.273	0.018	-0.255
	(0.250)	(0.042)	(0.253)
Former colony	0.124	-0.008	0.115
	(0.146)	(0.023)	(0.136)
Protestant	0.486	-0.033	0.454 *
	(0.312)	(0.091)	(0.269)
Catholic	-0.110	0.007	-0.102
	(0.157)	(0.019)	(0.151)
Muslim	0.127	-0.008	0.118
	(0.147)	(0.026)	(0.132)
Latitude	0.008*	-0.001	0.008*
	(0.005)	(0.001)	(0.004)
Surface (log)	-0.099***	0.007	-0.092***
	(0.021)	(0.016)	(0.026)
Elevation	0.228**	-0.015	0.212**
	(0.088)	(0.037)	(0.095)
Roughness	-0.406	0.027	-0.379
	(0.270)	(0.072)	(0.252)
Ethn. fractionalization	-0.007	0.000	-0.007
	(0.147)	(0.010)	(0.137)
Ethn. polarization	-0.295**	0.020	-0.275**
	(0.150)	(0.048)	(0.155)
GDP per capita (log)	0.237 ***	-0.016	0.221 ***
	(0.052)	(0.039)	(0.061)
Natural resources	-0.007**	0.000	-0.007**
	(0.004)	(0.001)	(0.003)
Globalization	0.029***	-0.002	0.027***
	(0.004)	(0.005)	(0.006)

Notes: The different effects are calculated from the estimates in column 5 of Table 7. The dependent variable is in all cases the measure of quality of government described in section 3. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

53

Table 9: Political equality and quality of government: The role of education.

	(1)	(2)	(3)	(4)	(5)	(6)
Estimation method	OLS	GS2SLS	OLS	GS2SLS	OLS	GS2SLS
Dependent variable	Education	Education	Education	Education	Quality of government	Quality of government
Political equality	0.530***	0.341**	0.320***	0.275**	0.074*	0.056
	(0.106)	(0.167)	(0.103)	(0.117)	(0.044)	(0.055)
Democracy	0.013	0.023	-0.000	0.005	0.015*	0.016**
	(0.021)	(0.021)	(0.021)	(0.019)	(0.008)	(0.007)
Economic inequality	-1.818	-1.948	-2.575	-2.986**	0.651	0.607
	(1.541)	(1.547)	(1.635)	(1.480)	(0.634)	(0.579)
English legal origin			-0.079	-0.032	-0.142	-0.155
			(0.566)	(0.499)	(0.229)	(0.210)
French legal origin			-0.127	-0.052	-0.155	-0.170
			(0.642)	(0.576)	(0.273)	(0.252)
German legal origin			0.177	0.230	0.056	0.038
			(0.561)	(0.510)	(0.217)	(0.204)
Socialist legal origin			-0.186	-0.094	-0.266	-0.285
			(0.672)	(0.629)	(0.257)	(0.241)
Former colony			-0.030	-0.101	0.128	0.122
			(0.309)	(0.279)	(0.158)	(0.141)
Protestant			-0.871	-0.641	0.563*	0.556*
			(0.656)	(0.634)	(0.318)	(0.303)
Catholic			-0.876***	-0.813***	-0.019	-0.023
			(0.298)	(0.281)	(0.168)	(0.151)
Muslim			-0.833**	-0.815**	0.218	0.218
			(0.404)	(0.365)	(0.159)	(0.145)
Latitude			0.003	0.004	0.007	0.007
			(0.009)	(0.009)	(0.005)	(0.004)
Surface (log)			-0.137***	-0.136***	-0.082***	-0.081***
			(0.052)	(0.046)	(0.023)	(0.021)
Elevation			0.172	0.152	0.212**	0.217***
			(0.175)	(0.166)	(0.093)	(0.083)
Roughness			-0.248	-0.313	-0.368	-0.360
			(0.473)	(0.454)	(0.300)	(0.275)
Ethn. fractionalization			0.033	0.047	-0.007	0.000
			(0.372)	(0.334)	(0.153)	(0.135)
Ethn. polarization			-0.620	-0.600*	-0.228	-0.227
			(0.404)	(0.361)	(0.182)	(0.166)
GDP per capita (log)			0.528***	0.560***	0.176***	0.177***
			(0.138)	(0.123)	(0.065)	(0.059)
Natural resources			-0.012	-0.014**	-0.006	-0.005
			(0.007)	(0.006)	(0.004)	(0.004)
Globalization			-0.001	-0.002	0.029***	0.029***
			(0.011)	(0.009)	(0.005)	(0.004)
Education in neighbouring countries		0.570		-0.378	0.116***	0.122***
		(0.409)		(0.372)	(0.044)	(0.042)
Quality of government in neighbouring countries						0.054
						(0.190)
Constant	1.857***	1.274	-0.309	-0.159	-3.051***	-3.039***
	(0.551)	(0.783)	(1.382)	(1.218)	(0.640)	(0.582)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.588		0.756		0.900	
Pseudo R-squared		0.572		0.757		0.900
Observations	145	145	145	145	145	145

Notes: In odd columns the estimation method is OLS with robust standard errors in parentheses, while in even columns the estimation method is GS2SLS with heteroskedastic innovations of unknown form in the disturbance process. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

APPENDIX (for online publication)

A1 Data

A1.1 Political equality

As pointed out in section 3, the V-Dem measure of political equality used in the paper is based on the information provided by numerous country experts, who code one or several countries according to expertise. Before being asked about how political power is distributed across income groups, country experts receive the following instructions (Coppedge *et al.*, 2018a, p. 186):

> This section pertains to political equality, that is, the extent to which members of a polity possess equal political power. It does not refer to the inevitable differentiation in power that occurs in all large societies between those who hold positions of power within the state (political elites) and lay citizens. It is, rather, about the distribution of political power among identifiable groups within the population. What does it mean for a group of individuals to wield real political power? Although political power cannot be directly observed, one can infer that groups possess power to the extent that they: (a) actively participate in politics (by voting, etc.), (b) are involved in civil society organizations, (c) secure representation in government, (d) are able to set the political agenda, (e) influence political decisions, and (f) influence the implementation of those decisions. Please consider all

these factors when answering the following questions. (Of course, the picture across these different dimensions may be mixed; your response should indicate the overall picture, taking all aspects of political power into account.)

Country experts must then answer the following question (Coppedge *et al.*, 2018a, p. 186):

Question: Is political power distributed according to socioeconomic position?

Clarification: All societies are characterized by some degree of economic (wealth and income) inequality. In some societies, income and wealth are distributed in a grossly unequal fashion. In others, the difference between rich and poor is not so great. Here, we are concerned not with the degree of social inequality but rather with the political effects of this inequality. Specifically, we are concerned with the extent to which wealth and income translates into political power.

Responses:

0: Wealthy people enjoy a virtual monopoly on political power. Average and poorer people have almost no influence.

1: Wealthy people enjoy a dominant hold on political power. People of average income have little say. Poorer people have essentially no influence.

2: Wealthy people have a very strong hold on political power. People

of average or poorer income have some degree of influence but only on issues that matter less for wealthy people.

3: Wealthy people have more political power than others. But people of average income have almost as much influence and poor people also have a significant degree of political power.

4: Wealthy people have no more political power than those whose economic status is average or poor. Political power is more or less equally distributed across economic groups.

As described in section 3, the ratings provided by country experts are aggregated using a measurement model based on Bayesian item response theory (IRT) modeling techniques, which produces a probability distribution over country-year scores on a standardized interval scale. See Coppedge *et al.* (2018b) for further details.

A1.2 Quality of government

The four WGI measures used to construct our main index of quality of government are defined as follows (Kaufmann *et al.*, 2010, p. 223):

- *Government effectiveness:* Measuring perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

- *Regulatory quality:* Measuring perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote

private sector development.

- *Rule of law:* Measuring perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

- *Control of corruption:* Measuring perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

A1.3   Control variables

We now present the definitions and sources of the different control variables used throughout the paper:

- *Democracy:* Democracy index ranging between -10 (full autocracy) and 10 (full democracy). Source: Polity IV Project.

- *Economic inequality:* Gini index calculated using data on household disposable (post-tax, post-transfer) income. Source: Standardized World Income Inequality Database (SWIID).

- *Legal origins:* Set of dummy variables that identify the legal origin of the Company Law or Commercial Code of a country. The four legal origins considered are: (i) English Common Law, (ii) French Commercial Code, (iii) German legal origin, and (iv) Socialist or Communist Laws. Source: Ashraf and Galor (2013).

- *Former colony:* Dummy variable that takes the value of one if the country is a former European colony, zero otherwise. Source: Own elaboration based on data drawn from Nunn and Puga (2012).

- *Protestant:* Share of Protestants in the total population in the year 2000. Source: Barro and McCleary (2003).

- *Catholic:* Share of Roman Catholics in the total population in the year 2000. Source: Barro and McCleary (2003).

- *Muslim:* Share of Muslims in the total population in the year 2000. Source: Barro and McCleary (2003).

- *Latitude:* Absolute value of the latitude of a country's approximate geodesic centroid. Source: Ashraf and Galor (2013).

- *Surface:* Natural log of a country's total area, including areas under inland bodies of water and some coastal waterways. Source: World Development Indicators (World Bank).

- *Elevation:* Mean elevation of a country in kilometres above sea level, calculated using geospatial data. Source: Ashraf and Galor (2013).

- *Terrain roughness:* Degree of terrain roughness of a country, calculated using geospatial data. Source: Ashraf and Galor (2013).

- *Ethnolinguistic fractionalization:* Index of ethnolinguistic fractionalization that captures the probability that two individuals randomly drawn from the population belong to different ethnolinguistic groups. See Desmet *et al.* (2012) for further details. Although Desmet *et al.* (2012) consider different levels of aggregation of

linguistic groups in a country's population (based on hierarchical linguistic trees), the specific fractionalization measure used in our analysis is the one corresponding to their most disaggregated level. Source: Desmet *et al.* (2012).

- *Ethnolinguistic polarization:* Index of ethnolinguistic polarization that quantifies the extent to which the ethnolinguistic composition of a country's population resembles a perfectly polarized distribution, in which the national population is composed of two groups of equal size. See Desmet *et al.* (2012) for further details. Although Desmet *et al.* (2012) consider different levels of aggregation of linguistic groups in a country's population (based on hierarchical linguistic trees), the specific polarization measure used in our analysis is the one corresponding to their most disaggregated level. Source: Desmet *et al.* (2012).

- *GDP per capita:* Natural log of GDP per capita based on purchasing power parity (PPP). Data are in constant 2011 international dollars. Source: World Development Indicators (World Bank).

- *Natural resources:* Total natural resources rents expressed as a percentage of GDP. Source: World Development Indicators (World Bank).

- *Globalization:* KOF globalization index. The index is constructed using different variables that capture the economic, social and political dimensions of globalization. See Dreher (2006) for further details. Source: Dreher (2006).

- *Education:* Measure which captures to what extent is high quality basic education guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens. Basic education refers to ages typically between 6 and 16 years of age but this varies slightly among countries. The method used to construct this variable

is very similar to that described in section 3 in relation to the measure of political equality. See Coppedge *et al.* (2018a) for further details. Source: V-Dem dataset.

References

Ashraf, Q.H. and Galor, O. (2013): The 'Out of Africa' hypothesis, human genetic diversity, and comparative economic development, *American Economic Review* 103 (1), 1-46.

Barro, R.J. and McCleary, R.M. (2003): Religion and economic growth across countries, *American Sociological Review* 68 (5), 760-781.

Coppedge, M., Gerring, J., Knutsen, C.H., Lindberg, S.I. et al. (2018a): V-Dem codebook v8. Varieties of Democracy (V-Dem) Project.

Coppedge, M., Gerring, J., Knutsen, C.H., Lindberg, S.I. et al. (2018b): V-Dem methodology v8. Varieties of Democracy (V-Dem) Project.

Desmet, K., Ortuño-Ortín, I. and Wacziarg, R. (2012): The political economy of linguistic cleavages, *Journal of Development Economics* 97, 322-338.

Dreher, A. (2006): Does globalization affect growth? Evidence from a new index of globalization, *Applied Economics* 38 (10), 1091-1110.

Kaufmann, D., Kraay, A. and Mastruzzi, M. (2010): The Worldwide Governance Indicators: Methodology and analytical issues, *Hague Journal on the Rule of Law* 3, 220-246.

Nunn, N. and Puga, D. (2012): Ruggedness: The blessing of bad geography in Africa,

Review of Economics and Statistics 94 (1), 20-36.

A2   List of countries

Albania	Central African Republic	France
Algeria	Chad	Gabon
Angola	Chile	Gambia, The
Argentina	China	Georgia
Armenia	Colombia	Germany
Australia	Comoros	Ghana
Austria	Congo, Dem. Rep.	Greece
Azerbaijan	Congo, Rep.	Guatemala
Bangladesh	Costa Rica	Guinea
Belarus	Cote d'Ivoire	Guinea-Bissau
Belgium	Croatia	Guyana
Benin	Cyprus	Haiti
Bhutan	Czech Republic	Honduras
Bolivia	Denmark	Hungary
Botswana	Djibouti	India
Brazil	Dominican Republic	Indonesia
Bulgaria	Ecuador	Iran, Islamic Rep.
Burkina Faso	Egypt, Arab Rep.	Iraq
Burundi	El Salvador	Ireland
Cabo Verde	Equatorial Guinea	Israel
Cambodia	Estonia	Italy
Cameroon	Fiji	Japan
Canada	Finland	Jordan

Kazakhstan	Namibia	Slovenia
Kenya	Nepal	Solomon Islands
Korea, Rep.	Netherlands	South Africa
Kyrgyz Republic	New Zealand	Spain
Lao PDR	Nicaragua	Sri Lanka
Latvia	Niger	Suriname
Lebanon	Nigeria	Swaziland
Lesotho	Norway	Sweden
Liberia	Pakistan	Switzerland
Lithuania	Panama	Tajikistan
Luxembourg	Papua New Guinea	Tanzania
Macedonia, FYR	Paraguay	Thailand
Madagascar	Peru	Togo
Malawi	Philippines	Trinidad and Tobago
Malaysia	Poland	Tunisia
Mali	Portugal	Turkey
Mauritania	Qatar	Turkmenistan
Mauritius	Romania	Uganda
Mexico	Russian Federation	Ukraine
Moldova	Rwanda	United Arab Emirates
Mongolia	Senegal	United Kingdom
Morocco	Sierra Leone	United States
Mozambique	Singapore	Uruguay
Myanmar	Slovak Republic	Venezuela, RB

Vietnam	Zambia
Yemen, Rep.	Zimbabwe

A3 Additional Tables

Table A1: Summary statistics.

Variable	Mean	Std. Dev.	Min	Max
Quality of government	-0.051	0.968	-1.511	2.037
Political equality	0.498	0.974	-2.237	2.642
Democracy	4.489	5.732	-10.000	10.000
Economic inequality	0.394	0.082	0.238	0.613
English legal origin	0.269	0.445	0.000	1.000
French legal origin	0.462	0.500	0.000	1.000
German legal origin	0.034	0.183	0.000	1.000
Socialist legal origin	0.207	0.406	0.000	1.000
Former colony	0.655	0.477	0.000	1.000
Protestant	0.115	0.179	0.000	0.897
Catholic	0.294	0.334	0.000	0.943
Muslim	0.221	0.332	0.000	0.991
Latitude	26.496	17.497	1.000	64.000
Surface (log)	12.144	1.835	6.550	16.654
Elevation	0.547	0.496	0.024	2.674
Roughness	0.200	0.185	0.013	1.242
Ethn. fractionalization	0.476	0.306	0.000	0.990
Ethn. polarization	0.457	0.250	0.000	0.958
GDP per capita (log)	9.004	1.256	6.337	11.691
Natural resources	9.379	12.324	0.000	50.865
Globalization	58.238	17.596	23.759	91.973
Education	0.571	1.416	-2.224	3.361

Table A2: First stage regressions: QML estimates.

	(1)	(2)	(3)	(4)	(5)
Political equality in	0.646***	0.648***	0.614***	0.639***	0.586***
neighbouring countries	(0.187)	(0.186)	(0.197)	(0.189)	(0.202)
Economic inequality	-3.436***	-3.603***	-3.679***	-3.350**	-4.222***
	(1.309)	(1.288)	(1.325)	(1.303)	(1.326)
Democracy	0.060***	0.065***	0.056***	0.055***	0.063***
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
English legal origin	-0.702	-0.592	-0.647	-0.644	-0.475
	(0.582)	(0.573)	(0.582)	(0.579)	(0.571)
French legal origin	-0.849	-0.643	-0.789	-0.723	-0.523
	(0.635)	(0.629)	(0.635)	(0.637)	(0.628)
German legal origin	-0.886	-0.811	-0.856	-0.811	-0.772
	(0.611)	(0.601)	(0.610)	(0.610)	(0.597)
Socialist legal origin	-1.394**	-1.006	-1.310**	-1.115*	-0.866
	(0.613)	(0.624)	(0.616)	(0.642)	(0.635)
Former colony	-0.376	-0.381	-0.431	-0.442	-0.446
	(0.300)	(0.294)	(0.303)	(0.301)	(0.298)
Protestant	-0.231	-0.018	-0.083	-0.028	0.225
	(0.614)	(0.609)	(0.627)	(0.627)	(0.625)
Catholic	-0.023	-0.150	0.015	-0.083	-0.088
	(0.310)	(0.310)	(0.311)	(0.312)	(0.309)
Muslim	-0.401	-0.253	-0.366	-0.336	-0.163
	(0.307)	(0.308)	(0.308)	(0.309)	(0.309)
Latitude	0.002	-0.002	0.001	-0.001	-0.006
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)
Surface (log)	-0.023	-0.024	-0.011	-0.022	0.001
	(0.043)	(0.042)	(0.044)	(0.042)	(0.044)
Elevation	0.166	0.255	0.154	0.176	0.262
	(0.163)	(0.164)	(0.162)	(0.162)	(0.164)
Roughness	0.128	0.141	0.150	0.271	0.085
	(0.460)	(0.452)	(0.459)	(0.469)	(0.464)
Ethn. fractionalization	0.255	0.332	0.270	0.288	0.371
	(0.311)	(0.307)	(0.310)	(0.309)	(0.305)
Ethn. polarization	0.109	-0.002	0.130	0.098	-0.002
	(0.335)	(0.332)	(0.334)	(0.333)	(0.330)
GDP per capita (log)		0.194**			0.281**
		(0.084)			(0.112)
Natural resources			-0.007		-0.013*
			(0.006)		(0.007)
Globalization				0.010	-0.007
				(0.007)	(0.010)
Constant	2.142**	0.153	2.115**	1.309	-0.180
	(0.922)	(1.247)	(0.921)	(1.097)	(1.258)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.479	0.500	0.485	0.484	0.515
Observations	145	145	145	145	145

Notes: Quasi-maximum likelihood (QML) estimates. The dependent variable is in all cases the measure of political equality described in section 3. Robust standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table A3: Robustness analysis: Alternative definitions of the instrument.

	(1)	(2)	(3)	(4)	(5)
Cut-off	3,000 km.	4,000 km.	5,000 km.	6,000 km.	7,000 km.
Political equality	0.092*	0.113**	0.121**	0.116**	0.138**
	(0.050)	(0.048)	(0.052)	(0.052)	(0.057)
Democracy	0.016**	0.015**	0.014*	0.015*	0.013*
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
Economic inequality	0.259	0.352	0.380	0.363	0.438
	(0.606)	(0.614)	(0.606)	(0.615)	(0.621)
English legal origin	-0.143	-0.146	-0.136	-0.145	-0.127
	(0.212)	(0.222)	(0.215)	(0.213)	(0.215)
French legal origin	-0.160	-0.164	-0.153	-0.162	-0.143
	(0.250)	(0.260)	(0.252)	(0.251)	(0.252)
German legal origin	0.072	0.080	0.089	0.082	0.101
	(0.192)	(0.196)	(0.191)	(0.191)	(0.193)
Socialist legal origin	-0.297	-0.283	-0.273	-0.280	-0.255
	(0.243)	(0.249)	(0.245)	(0.245)	(0.248)
Former colony	0.117	0.126	0.132	0.127	0.136
	(0.149)	(0.146)	(0.147)	(0.148)	(0.148)
Protestant	0.491*	0.468	0.479	0.470	0.477
	(0.298)	(0.311)	(0.306)	(0.301)	(0.308)
Catholic	-0.111	-0.119	-0.112	-0.117	-0.111
	(0.159)	(0.157)	(0.158)	(0.156)	(0.158)
Muslim	0.116	0.121	0.128	0.125	0.130
	(0.142)	(0.143)	(0.149)	(0.151)	(0.151)
Latitude	0.008*	0.008*	0.008*	0.008*	0.008*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Surface (log)	-0.098***	-0.098***	-0.098***	-0.098***	-0.098***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Elevation	0.232**	0.231***	0.226**	0.229***	0.225**
	(0.090)	(0.089)	(0.090)	(0.087)	(0.088)
Roughness	-0.405	-0.398	-0.401	-0.398	-0.400
	(0.266)	(0.269)	(0.270)	(0.272)	(0.272)
Ethn. fractionalization	-0.011	-0.005	-0.005	-0.004	-0.011
	(0.153)	(0.150)	(0.148)	(0.149)	(0.147)
Ethn. polarization	-0.289*	-0.298**	-0.300**	-0.299**	-0.300**
	(0.151)	(0.150)	(0.148)	(0.148)	(0.147)
GDP per capita (log)	0.241***	0.237***	0.234***	0.236***	0.229***
	(0.050)	(0.051)	(0.051)	(0.052)	(0.051)
Natural resources	-0.007**	-0.007*	-0.007**	-0.007**	-0.007*
	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
Globalization	0.029***	0.029***	0.029***	0.029***	0.029***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
QoG in neighb. Countries	-0.044	-0.010	-0.037	-0.018	-0.042
	(0.131)	(0.150)	(0.163)	(0.172)	(0.177)
Constant	-3.114***	-3.092***	-3.097***	-3.090***	-3.097***
	(0.621)	(0.620)	(0.610)	(0.608)	(0.613)
Regional fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.893	0.893	0.893	0.893	0.893
Observations	145	145	145	145	145

Notes: The dependent variable is in all cases the measure of quality of government described in section 3. The estimation method is GS2SLS with heteroskedastic innovations of unknown form in the disturbance process. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table A4: Direct, indirect and total effects for different definitions of the instrument.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Cut-off 3,000 km.			Cut-off 4,000 km.			Cut-off 5,000 km.		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Political equality	0.092***	-0.004	0.088**	0.113**	-0.001	0.111**	0.121***	-0.004	0.117***
	(0.050)	(0.012)	(0.045)	(0.047)	(0.017)	(0.046)	(0.047)	(0.020)	(0.044)
Democracy	0.016***	-0.001	0.016**	0.015*	0.000	0.015*	0.014*	-0.001	0.014*
	(0.008)	(0.002)	(0.008)	(0.008)	(0.002)	(0.008)	(0.008)	(0.002)	(0.008)
Economic inequality	0.260	-0.011	0.249	0.352	-0.004	0.348	0.380	-0.014	0.366
	(0.655)	(0.044)	(0.626)	(0.652)	(0.054)	(0.650)	(0.650)	(0.064)	(0.631)
English legal origin	-0.143	0.006	-0.137	-0.146	0.001	-0.144	-0.136	0.005	-0.131
	(0.272)	(0.019)	(0.264)	(0.278)	(0.022)	(0.282)	(0.272)	(0.022)	(0.268)
French legal origin	-0.160	0.007	-0.154	-0.164	0.002	-0.162	-0.153	0.005	-0.148
	(0.299)	(0.021)	(0.291)	(0.305)	(0.024)	(0.310)	(0.299)	(0.024)	(0.294)
German legal origin	0.072	-0.003	0.069	0.080	-0.001	0.079	0.089	-0.003	0.086
	(0.282)	(0.016)	(0.269)	(0.285)	(0.013)	(0.280)	(0.282)	(0.018)	(0.270)
Socialist legal origin	-0.297	0.012	-0.285	-0.283	0.003	-0.281	-0.273	0.010	-0.263
	(0.299)	(0.038)	(0.292)	(0.302)	(0.043)	(0.310)	(0.300)	(0.043)	(0.298)
Former colony	0.117	-0.005	0.112	0.126	-0.001	0.124	0.132	-0.005	0.127
	(0.142)	(0.016)	(0.135)	(0.142)	(0.019)	(0.139)	(0.142)	(0.022)	(0.135)
Protestant	0.491	-0.021	0.470 *	0.468	-0.005	0.463	0.480	-0.017	0.462
	(0.295)	(0.064)	(0.278)	(0.303)	(0.072)	(0.288)	(0.305)	(0.080)	(0.280)
Catholic	-0.111	0.005	-0.107	-0.119	0.001	-0.118	-0.112	0.004	-0.108
	(0.147)	(0.014)	(0.144)	(0.146)	(0.018)	(0.150)	(0.149)	(0.017)	(0.149)
Muslim	0.116	-0.005	0.112	0.121	-0.001	0.120	0.128	-0.005	0.123
	(0.144)	(0.015)	(0.140)	(0.144)	(0.019)	(0.143)	(0.147)	(0.022)	(0.139)
Latitude	0.008*	0.000	0.008**	0.008*	0.000	0.008*	0.008*	0.000	0.008*
	(0.005)	(0.001)	(0.004)	(0.005)	(0.001)	(0.004)	(0.005)	(0.001)	(0.004)
Surface (log)	-0.098***	0.004	-0.094***	-0.098***	0.001	-0.097***	-0.098***	0.004	-0.095***
	(0.020)	(0.012)	(0.024)	(0.020)	(0.015)	(0.026)	(0.020)	(0.015)	(0.025)
Elevation	0.232***	-0.010	0.222**	0.231***	-0.002	0.229**	0.226***	-0.008	0.218**
	(0.079)	(0.028)	(0.086)	(0.078)	(0.035)	(0.090)	(0.079)	(0.035)	(0.091)
Roughness	-0.405*	0.017	-0.388*	-0.398*	0.004	-0.394*	-0.401*	0.014	-0.387*
	(0.217)	(0.052)	(0.209)	(0.218)	(0.061)	(0.216)	(0.217)	(0.064)	(0.212)
Ethn. fractionalization	-0.011	0.000	-0.011	-0.005	0.000	-0.005	-0.005	0.000	-0.005
	(0.151)	(0.007)	(0.144)	(0.146)	(0.002)	(0.144)	(0.143)	(0.005)	(0.138)
Ethn. polarization	-0.289*	0.012	-0.277*	-0.298*	0.003	-0.295 *	-0.300*	0.011	-0.289*
	(0.156)	(0.035)	(0.160)	(0.155)	(0.045)	(0.164)	(0.154)	(0.047)	(0.156)
GDP per capita (log)	0.241***	-0.010	0.231***	0.237***	-0.002	0.235***	0.234***	-0.008	0.226***
	(0.055)	(0.029)	(0.065)	(0.054)	(0.036)	(0.066)	(0.054)	(0.037)	(0.066)
Natural resources	-0.007**	0.000	-0.007**	-0.007**	0.000	-0.007*	-0.007**	0.000	-0.007*
	(0.003)	(0.001)	(0.003)	(0.003)	(0.001)	(0.003)	(0.003)	(0.001)	(0.003)
Globalization	0.029***	-0.001	0.028***	0.029***	0.000	0.028***	0.029***	-0.001	0.028***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)	(0.006)	(0.004)	(0.005)	(0.006)

Notes: The different effects are calculated from the estimates in Table A3. The dependent variable is in all cases the measure of quality of government described in section 3. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table A4: Direct, indirect and total effects for different definitions of the instrument (*continuation*).

	(10)	(11)	(12)	(13)	(14)	(15)
	Cut-off 6,000 km.			Cut-off 7,000 km.		
	Direct	Indirect	Total	Direct	Indirect	Total
Political equality	0.116**	-0.002	0.114**	0.138***	-0.006	0.132***
	(0.047)	(0.020)	(0.045)	(0.047)	(0.024)	(0.045)
Democracy	0.015*	0.000	0.014*	0.013*	-0.001	0.013
	(0.008)	(0.002)	(0.008)	(0.008)	(0.002)	(0.008)
Economic inequality	0.363	-0.007	0.357	0.438	-0.018	0.421
	(0.652)	(0.062)	(0.647)	(0.656)	(0.076)	(0.644)
English legal origin	-0.145	0.003	-0.142	-0.127	0.005	-0.122
	(0.271)	(0.024)	(0.272)	(0.275)	(0.022)	(0.270)
French legal origin	-0.162	0.003	-0.159	-0.143	0.006	-0.137
	(0.298)	(0.027)	(0.300)	(0.303)	(0.024)	(0.297)
German legal origin	0.082	-0.001	0.080	0.101	-0.004	0.097
	(0.281)	(0.015)	(0.275)	(0.283)	(0.022)	(0.270)
Socialist legal origin	-0.280	0.005	-0.275	-0.255	0.010	-0.245
	(0.301)	(0.047)	(0.305)	(0.304)	(0.043)	(0.304)
Former colony	0.127	-0.002	0.125	0.136	-0.005	0.131
	(0.141)	(0.022)	(0.138)	(0.141)	(0.024)	(0.137)
Protestant	0.470	-0.008	0.462	0.477	-0.019	0.458
	(0.305)	(0.082)	(0.285)	(0.313)	(0.087)	(0.281)
Catholic	-0.117	0.002	-0.115	-0.111	0.004	-0.107
	(0.150)	(0.019)	(0.154)	(0.150)	(0.018)	(0.151)
Muslim	0.125	-0.002	0.123	0.130	-0.005	0.125
	(0.148)	(0.022)	(0.142)	(0.148)	(0.024)	(0.139)
Latitude	0.008**	0.000	0.008	0.008*	0.000	0.008**
	(0.004)	(0.001)	(0.004)	(0.004)	(0.001)	(0.004)
Surface (log)	-0.098***	0.002	-0.097***	-0.098***	0.004	-0.095***
	(0.020)	(0.017)	(0.026)	(0.020)	(0.017)	(0.025)
Elevation	0.229***	-0.004	0.225**	0.225*	-0.009	0.216**
	(0.078)	(0.039)	(0.093)	(0.077)	(0.038)	(0.087)
Roughness	-0.398*	0.007	-0.391*	-0.400	0.016	-0.384*
	(0.217)	(0.068)	(0.217)	(0.217)	(0.070)	(0.213)
Ethn. fractionalization	-0.004	0.000	-0.004	-0.011	0.000	-0.010
	(0.143)	(0.003)	(0.140)	(0.143)	(0.006)	(0.137)
Ethn. polarization	-0.299*	0.005	-0.294*	-0.300*	0.012	-0.288*
	(0.154)	(0.051)	(0.160)	(0.154)	(0.051)	(0.158)
GDP per capita (log)	0.236***	-0.004	0.231***	0.229***	-0.009	0.220***
	(0.054)	(0.040)	(0.070)	(0.054)	(0.039)	(0.067)
Natural resources	-0.007*	0.000	-0.007*	-0.007*	0.000	-0.006*
	(0.003)	(0.001)	(0.003)	(0.003)	(0.001)	(0.003)
Globalization	0.029***	-0.001	0.028***	0.029***	-0.001	0.028***
	(0.004)	(0.005)	(0.006)	(0.004)	(0.005)	(0.006)

Notes: The different effects are calculated from the estimates in Table A3. The dependent variable is in all cases the measure of quality of government described in section 3. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Table A5: Direct, indirect and total effects when education is controlled for.

	Direct effects	Indirect effects	Total effects
Political equality	0.056	0.003	0.059
	(0.055)	(0.010)	(0.053)
Education	0.122***	0.007	0.129**
	(0.042)	(0.027)	(0.058)
Democracy	0.016**	0.001	0.017**
	(0.007)	(0.003)	(0.008)
Economic inequality	0.607	0.034	0.641
	(0.579)	(0.130)	(0.614)
English legal origin	-0.155	-0.009	-0.164
	(0.210)	(0.038)	(0.233)
French legal origin	-0.170	-0.010	-0.180
	(0.252)	(0.042)	(0.279)
German legal origin	0.038	0.002	0.040
	(0.204)	(0.011)	(0.212)
Socialist legal origin	-0.285	-0.016	-0.301
	(0.241)	(0.066)	(0.282)
Former colony	0.122	0.007	0.129
	(0.141)	(0.027)	(0.150)
Protestant	0.556	0.031	0.588 **
	(0.303)	(0.112)	(0.298)
Catholic	-0.023	-0.001	-0.024
	(0.151)	(0.010)	(0.160)
Muslim	0.218	0.012	0.230
	(0.145)	(0.044)	(0.146)
Latitude	0.007	0.000	0.007
	(0.004)	(0.001)	(0.005)
Surface (log)	-0.081***	-0.005	-0.086***
	(0.021)	(0.017)	(0.026)
Elevation	0.217***	0.012	0.229**
	(0.084)	(0.047)	(0.104)
Roughness	-0.360	-0.020	-0.380
	(0.275)	(0.075)	(0.287)
Ethn. fractionalization	0.000	0.000	0.000
	(0.135)	(0.008)	(0.143)
Ethn. polarization	-0.227	-0.013	-0.240
	(0.166)	(0.048)	(0.180)
GDP per capita (log)	0.177***	0.010	0.187***
	(0.059)	(0.037)	(0.064)
Natural resources	-0.005	0.000	-0.006*
	(0.003)	(0.001)	(0.003)
Globalization	0.029***	0.002	0.030***
	(0.004)	(0.006)	(0.008)

Notes: The different effects are calculated from the estimates in column 6 of Table 9. The dependent variable is in all cases the measure of quality of government described in section 3. Standard errors in parentheses. * Significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.