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Jerg Gutmann, Stefan Voigt, Stefan Voigt

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The Rule of Law:
Measurement and Deep Roots

Jerg Gutmann
Stefan Voigt

Working Paper 2016 No. 1

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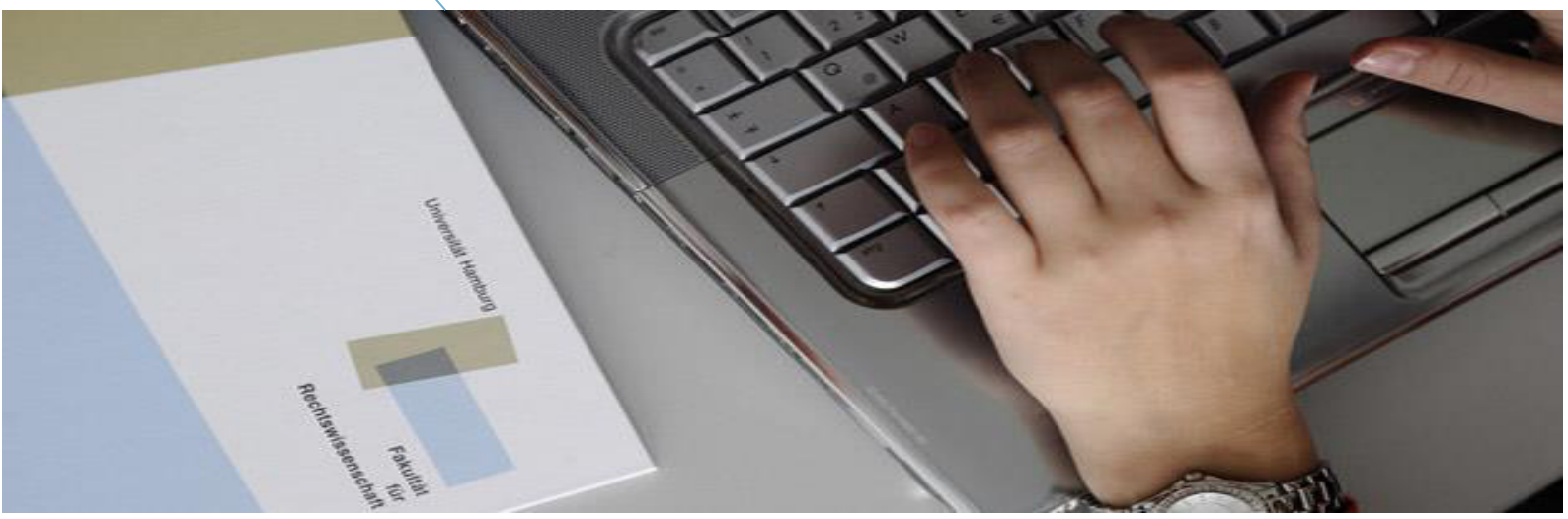

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The Rule of Law: Measurement and Deep Roots

Jerg Gutmann
University of Hamburg*

Stefan Voigt
University of Hamburg and CESifo†

Abstract:
This paper does three things. First, based on a limited number of theoretically established dimensions, it proposes a new de facto indicator for the rule of law. It is the first such indicator to take the quality of legal norms explicitly into account. Second, using this indicator we shed new light on the relationship between the rule of law and the political system of a country. Third, because political systems hardly predetermine the rule of law level of a country, we investigate the roots of the rule of law. As theory on this specific question is scarce and the rule of law is closely associated with income levels, we draw on a topical literature that deals with the fundamental causes of economic development. Our findings suggest that specific determinants of long-run development operate via the rule of law, whereas others are not related to the rule of law at all.

Key words: *Rule of Law, Democracy, Dictatorship, Economic Development, Geography, Institutions.*

JEL classification: *B41, C81/82, H11, K00, O17, O43, O57.*

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* Institute of Law & Economics, Johnsallee 35, 20148 Hamburg, Germany. Tel.: +49-40-42838 3040, E-mail: jerg.gutmann@uni-hamburg.de.

† Director, Institute of Law & Economics, Johnsallee 35, 20148 Hamburg, Germany. Tel.: +49-40-42838 5782, Fax: +49-40-42838 6974, E-mail: stefan.voigt@uni-hamburg.de.

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1. Introduction

Most people, at least in the West, agree that the rule of law, which can be defined as the subordination of any government power to well-defined and established laws, is desirable. It is often interpreted as the basis of predictable and fair state action, which in turn is conducive to economic development. Not surprisingly, many development organizations have tried to promote the establishment and preservation of the rule of law in various parts of the world – thus far with rather mixed results.

Given this enthusiasm for the rule of law, it is remarkable how little we know about it. This pertains not only to its effects, but also to its relationship with the political system and to its root causes. The relationship between the rule of law and democracy has been discussed on a theoretical level for a long time.[1] Barro (1999), for example, failed to provide evidence that the rule of law and democracy are causally linked. Rigobon and Rodrik (2005), in contrast, find some evidence that they are mutually reinforcing.

Improving our knowledge of the rule of law presupposes the ability to measure it. To date, the available rule of law indicators suffer from a number of serious conceptual flaws. This is why a new indicator is developed here. We follow the proposal for such an indicator in Voigt (2012). It is based on a rather "thin" conception of the rule of law and a limited number of theoretically derived dimensions. Data produced by the World Justice Project (WJP, see Botero and Ponce 2011), which reflects the actual situation in the countries included, is used to analyze the association between these different dimensions and to

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1 For example, Maravall and Przeworski (2003) contains a number of very interesting contributions.

measure the rule of law in aggregate. Drawing on our newly developed indicator, we ask whether different levels of rule of law are associated with different levels of democracy as well as different types of political regimes. Following standard practice, we distinguish parliamentary, semi-presidential, and presidential democracies. We find that on average parliamentary systems reach significantly higher levels of the rule of law than presidential systems. Also, among autocratic countries, a small number of monarchies perform surprisingly well in terms of the rule of law. Although democracies (when all three subgroups are factored together) outperform autocracies overall, this is not the case for the subgroup of presidential democracies.

This paper also investigates the long-term determinants of the rule of law. The development community seems to agree that attempts to export democracy have been, by and large, a failure (Andrews 2013 and Coyne 2007 are just two recent examples). Nevertheless, there is still much money spent on trying to implement the rule of law in many regions of the world. The World Bank alone spends hundreds of millions of dollars annually on such projects. To better evaluate the prospects of being successful in such an endeavor, it is essential to understand why some countries were able to implement and safeguard the rule of law, while others are merely ruled by law. This is closely linked to questions about the fundamental causes of long-run growth. Both democracy and various aspects of the rule of law are considered by some scholars to be determinants of differences in income (see Acemoglu et al. 2014 for the effect of democracy on income, and Rigobon and Rodrik 2005 for the causal relationships between income, democracy and rule of law). Instead of directly addressing the complex identification problems arising in the analysis of the interrelationship between income levels and the rule of law, we focus on a more basic question: Given the strong association between income and the

rule of law, which of the fundamental determinants of income can also be linked to modern-day rule of law levels?

Our findings suggest that certain determinants of long-run development operate via the rule of law, whereas others are not related to the rule of law at all. Specifically, the geographical characteristics of a country are strongly associated with both income and the rule of law. The institutional landscape has also been altered by European settlements, causing formerly prosperous areas to experience relative economic decline. Our empirical evidence is not, however, merely supportive of the "primacy of institutions" view. Since human capital, which European settlers brought to their colonies, played an important role in historical economic development, too, it is also compatible with the "primacy of education" view. Finally, our results indicate that the rule of law does significantly contribute to economic development and it is not simply a consequence of high income levels.

The rest of the paper is organized as follows. In Section 2, we introduce our new rule of law indicator. Section 3 discusses potential complementarities and tradeoffs between the rule of law and democracy and analyzes them empirically by drawing on the newly developed indicator. Section 4 deals with potential roots of the rule of law, and Section 5 concludes.

2. A New Rule of Law Indicator

The renewed interest in the rule of law has been accompanied by a supply of indicators purporting to measure the rule of law. So why would we need to produce yet another one? It has been convincingly argued that some of the most frequently used indicators suffer from serious flaws. As an example, consider the dimension "rule of law" produced as part of the Worldwide Governance Indicators by a team originating from the World Bank

(Kaufmann et al. 2010).[2] It is not only among the most frequently used indicators of the rule of law, but probably also the most criticized. The main critique is that the indicator is not based on a thoughtfully systematized concept, but that its (implicit) definition is based on surveys that happened to be available when the indicator is produced.[3] Consequently, it is unclear if this indicator really captures the quintessence of the rule of law or whether it is driven by some non-essential components.

Conceptualizing and Measuring the Rule of Law

It is not surprising that a concept like the rule of law has been delineated in a myriad of ways. We propose to rely on a rather "thin" (narrow, formal) instead of a "thick" (broad, substantive) conception here.[4] Whereas the thin version contains only the bare necessities, a thick version may contain other desirable traits, such as democracy or a broad set of human rights. We choose to delineate the rule of law rather thinly here because an all-encompassing definition of the rule of law would be unworkable for both empirical research and policy advice. To be as clear as possible about our conceptualization of the rule of law, we name some concepts that are better kept apart from it: (1) democracy, (2)

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2 Other popular rule of law indicators are provided by Freedom House or as part of the Bertelsmann Transformation Index and the International Country Risk Guide.

3 We are deliberately brief here because there is an extensive debate of the indicator's weaknesses. Among the critics are Arndt and Oman (2006), Knack (2006), Langbein and Knack (2010), Thomas (2010), as well as Kurtz and Schrank (2007). Kaufmann et al. (2007) is a reply to critics.

4 The distinction between thin and thick concepts is commonly used in the literature on the rule of law. HiiL (2007) is but one example.

market economy, (3) broadly defined human rights, (4) law and order, and (5) the degree to which citizens respect formal legislation.[5]

To give the various dimensions of the rule of law a structure, we propose to distinguish between formal traits that legislation should have, and instruments that are used to ensure the proper implementation of such legislation. These instruments include, among other things, the separation of powers, judicial independence, and a narrowly defined set of basic human rights which include the absence of extrajudicial killings, torture, and the like.

Focusing on the formal traits of legislation, Hayek (1960, 164) points out that the rule of law is often contrasted to the rule of man. The concept is sometimes called "government under the law" because the law is to be applied equally to everyone, political leaders included. According to the rule of law, no power used by government may be arbitrary; all power has to be limited. Furthermore, drawing on Immanuel Kant (1797/1995) laws should fulfill the criterion of *universalizability*, which has been interpreted as the law being *general*, i.e., applicable to an unforeseeable number of persons and circumstances, *open*, i.e., not prescribing a certain behavior but simply proscribing a finite number of actions, and *certain*, i.e., anyone interested in discovering whether a certain behavior is legal can do so with a fairly high chance of being correct and can furthermore expect that today's rules will also be applied tomorrow.

Lon Fuller's (1969, 44–91) Storrs Lectures contain a famous list of traits that rules should have. All of these can be interpreted as describing necessary components of the rule of

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5 The reasons for separating these concepts from the rule of law are spelled out in some detail in Voigt (2012).

law. According to Fuller's list, laws must be (1) general, (2) publicly promulgated, (3) prospective (i.e., not retroactive), (4) clear, (5) consistent (i.e., not contain any contradictions), (6) practicable (i.e., not demand the impossible), (7) constant over time, and (8) congruent with the actions of officials.[6]

To measure both the formal traits of legislation as well as the means by which they are implemented, a number of issues need to be addressed. If we assume that the effects of the rule of law depend on the degree to which those traits are implemented, it is necessary to identify measures for actual practice—and not just for some black letter law, as in Nardulli et al. (2013). This implies that the variables used to produce our rule of law indicator should reflect the actual behavior of law enforcers. These include the bureaucracy, police, prosecutors, judges, prison staff, and others.[7] Such behavior can usually only be measured based on evaluations by experts or the general population, which are of course to some degree subjective.

Proponents of objective data and those of subjective data emphasize different pros and cons of such institutional indicators (see, e.g., Gutmann et al. 2014). The main argument in favor of objective data is (given precisely defined underlying criteria) the variable is free from subjective evaluations, which might (particularly in a cross-country context) hugely diverge between respondents. The main argument in favor of subjective data is that many decisions are based on various hard and soft criteria that can never be

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6 Buchanan and Congleton (1998) is a description of both the rationale as well as the ensuing desirable traits of legislation that economists will find very accessible.

7 Glaeser et al. (2004) might reply that this confounds institutional constraints and political decisions. However, if one is interested in enforced institutions, the effectiveness of law cannot be taken for granted.

comprehensively covered by a limited number of objectively measurable facts. For example, the investment climate of a country is the result of a number of considerations that can only enter into subjective variables. For practical reasons, measuring the *de facto* rule of law objectively is not a feasible option at this time.

Creating Nested Indicators for the Rule of Law

We now move on to describe the operationalization of the different dimensions of the rule of law explicitly taken into consideration here. A framework for how to measure the rule of law has been spelled out in detail by Voigt (2012). Here we use and amplify this framework, which makes a distinction between the quality of legal norms and the quality of their enforcement with respect to the rule of law. Indicators for the rule of law have until now exclusively measured the latter (Bergman 2012). In the following, we introduce the dataset we draw on for measuring both aspects and explain our procedure for aggregating the variables of interest into nested rule of law indicators.

The WJP uses a number of survey instruments with more than 400 questions in total. These were administered between 2011 and 2013 in 99 countries worldwide. Over 100,000 households and 2,400 experts were surveyed.[8] Making use of all available data would, of course, be an option. However, we pursue a more conservative strategy here and rely only on survey items that conceptually fit well into one of the dimensions that we argue are essential to the rule of law. By excluding those questions that do not fit well, we create eleven components, which reflect different dimensions of the rule of law and

8 The general population survey is translated into local languages, adapted to common expressions, and administered by leading local polling companies using a probability sample of 1,000 respondents in the three largest cities of each country.

are based on varying numbers of survey items.[9] In total, we use 91 questions from the WJP survey. For the dimension "prosecutorial independence", we have identified just one question that can serve as an adequate proxy. At the other end of the spectrum, the dimensions "universalizability of the law" and "discrimination free judiciary" are each addressed by 14 different questions. Appendix A displays the survey questions we use, organized according to our eleven dimensions of the rule of law.

Figure 1 shows the structure of our rule of law indicator. While the quality of the law is reflected in only one component, we have grouped the remaining ten components into three categories. "Checks and balances" asks to what degree the representatives of the three branches of government are effectively bound by law. "Standards in law enforcement" asks whether the law is applied indiscriminately, for example not treating opponents of the political regime more harshly. Finally, "impartiality in law enforcement" depends on whether the law is applied equally and independently of wealth, gender, ethnicity, etc. of the parties to the dispute. Although these three categories lay emphasis on different dimensions in the realization of the rule of law, there is, of course, some conceptual overlap between them. Nevertheless, our four subindicators reflecting each of these categories may be conducive to identifying more precisely if and how countries fail to uphold the rule of law. A country may, for example, hold its politicians accountable to the law, but at the same time discriminate systematically against minorities. Also, a perception of significant external or internal threats to a country may motivate limitations on the standards applied in law enforcement.

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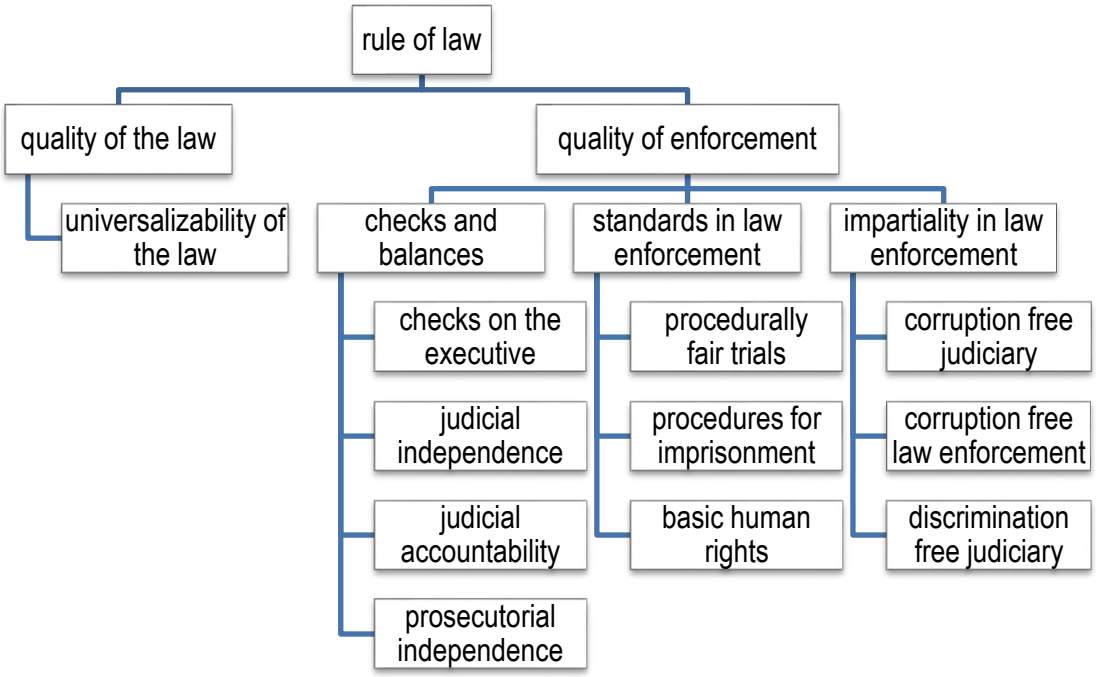
9 "Prosecutorial accountability" and "judicial review of legislation" are two additional dimensions we would like to take into account, but they have not been measured at all.

Figure 1: Structure of the Rule of Law Indicator



We compute our eleven components as the mean score of the respective constituent variables, which were coded by the WJP (see Botero and Ponce 2011). These variables are all scaled between zero and one with higher values indicating more *de facto* rule of law. To make sure that by taking the mean over many different variables we do not confound dissimilar information in one component, we also run factor analyses for each group of variables. In all dimensions a single latent factor covers most of the underlying variation in the data, which is supported by the respective scree plots. However, in the dimension "universalizability" we find that a second factor explains more than 20 percent of the variation in the answers to 14 questions. The first factor, which by itself explains over 70 percent of the variation, loads highly on the eleven questions from the expert surveys, whereas the second factor loads highly on the remaining three questions from the general population survey. It seems noteworthy that this is the only one of our eleven components where experts and citizens appear to not fully agree on the level of the rule of law in a country. In other words, experts and citizens seem to agree more on the quality

of law enforcement than on the quality of the substance of the law. More precisely, it is two questions about the clarity of the law in which general population and (legal) experts seem to come to different evaluations. Even so, we do not see due cause to exclude the general population survey questions and, hence, we choose to calculate the mean value over all 14 questions.[10]

1. *Universalizability*

We attribute 14 questions from the WJP to the dimension universalizability. They cover aspects such as the public availability of laws, their timely publication, the stability of regulation over time as well as the awareness citizens have regarding their rights. The variables reflect many aspects in Fuller's (1969) list, which was described above.

2. *Checks on the Executive*

The separation of powers allocates specific powers to specific branches of government, thus diluting the power of each branch and making transgressions against the law less likely. Here we draw on three questions referring to the degree to which the executive is effectively constrained by the legislature and judiciary.

3. *Judicial Independence*

If the judiciary is not independent, there will be a government of men, not a government of laws. Judicial independence implies that judges can expect their decisions to be implemented, regardless of whether they are in the (short-term) interest of other

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10 Mean scores are employed here instead of factor scores to avoid loss of information as a consequence of missing observations in single variables. Alternatively, we could perform imputation before the calculation of factor scores. However, using mean scores is in line with the procedure by which the WJP aggregates their data.

government branches upon which implementation depends.[11] In case of conflict between citizens and the government, the citizens need an organization that can adjudicate impartially. We draw on nine questions from the WJP survey instrument. They deal with the independence from the government of different courts, undue influence by the government in court proceedings, and the prospects for implementation of court decisions.

4. Judicial Accountability

Of course, the judiciary should also not be unconstrained; it must be limited to interpreting the law, and not be allowed to bend it. It thus needs to be held accountable, just as the other branches of government. Completely unconstrained judges might take too long to render a decision, ignore certain evidence, base a decision on irrelevant legislation, or simply make a patently false decision. Thus, independent judges can be a prerequisite for the rule of law, but also a threat to it. Until now, most measures of judicial accountability were highly questionable. The WJP, however, provides two variables addressing the accountability of judges: Is abuse of power by judges being sanctioned and are decisions published in a timely manner?

5. Prosecutorial Independence

One precondition for implementation of the rule of law is that similar cases are treated similarly. If governments can influence who is prosecuted and in what way, the rule of law suffers. Governments could act to keep certain crimes from being prosecuted and at other times call for the prosecution of crimes never committed. There is one variable by the WJP inquiring specifically into the lack of independence of prosecutors. Together with

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11 It further implies that judges need not fear negative consequences as a result of their decisions, such as (a) being expelled, (b) being paid less, or (c) being made less influential.

the independence and accountability of judges and different checks on the executive this falls into our broader category of "checks and balances".

6. Procedurally Fair Trials and 7. Procedures for Imprisonment

The WJP survey instrument contains a number of questions that can be used to create a component regarding the prospect for a fair trial. We choose 13 different questions covering aspects as diverse as the length of pre-trail detention, the presumption of innocence, access to evidence used against suspects, the likelihood of arbitrary arrest, and others. In addition, we create another component that summarizes the likelihood of being imprisoned without an indictment or formal charges based on three questions.

8. Basic Human Rights

It is unconceivable that even a minimum level of the rule of law can coexist with systematic disappearances, torture, extralegal killings, and so forth. We therefore integrate the absence of such atrocities in our measure of the rule of law. Based on eleven questions from the WJP we construct a component for basic human rights. This constitutes, together with the two previous components, our new subindicator for "standards in law enforcement".

9. Corruption Free Judiciary and 10. Corruption Free Law Enforcement

The final three components we create deal with different facets of "impartiality in law enforcement". When judges and court personnel are corrupt, the outcome of cases depends on the financial means of the involved parties. The resulting inequity in the enforcement of law is in stark contrast with the principles of the rule of law. We aggregate ten questions from the WJP survey regarding corruption in different types of courts in our component for judicial corruption. An analogous component is constructed for corruption in law enforcement, which focuses mainly on prosecutors and the police.

11. Discrimination Free Judiciary

Finally, discrimination in legal proceedings due to the gender, nationality, sexual orientation, religion, ethnicity or the wealth of a person is irreconcilable with the rule of law. Our component measures the prevalence of such forms of negative discrimination in both criminal and civil cases based on 14 expert survey questions.

<< Table 1: Correlation Matrix of the Main Dimensions of the Rule of Law >>

Having calculated the mean scores for our 11 components of the rule of law, we can proceed with aggregating the data further. Cronbach's (1951) α, which is reported in Appendix A for each component of the rule of law, indicates high levels of reliability. Next, we aggregate the components in three subindicators for the enforcement of the rule of law: "checks and balances," "standards in law enforcement," and "impartiality in law enforcement" by calculating mean scores. The correlations among these subindicators and that for "universalizability" range from r=0.79 to r=0.88. They are displayed in Table 1. In our overall indicator for the rule of law, the quality of law and the enforcement of law are weighted equally. It is thus a weighted sum of the four subindicators with "checks and balances," "standards in law enforcement," and "impartiality in law enforcement" each given one third of the weight of the subindicator for "universalizability". When we compare our rule of law indicator to that of the World Bank, we find a correlation of 0.95. This suggests that in spite of all the criticism, the Worldwide Governance Indicators might not be that wide off the mark in measuring the rule of law. Nevertheless, both indicators are not exactly identical and the World Bank's indicator is rather determined by the enforcement of the rule of law than by the substance of the law. Appendix B lists the rule of law scores.

Our rule of law indicator shows marked differences between countries. The highest rule of law levels can be observed in the Scandinavian countries, including Finland. The worst performing country is clearly Venezuela, followed by Zimbabwe, Uganda and war-torn Afghanistan. Singapore on rank ten is the best-performing autocracy, even ahead of the United States, which is ranked twentieth. By and large, these results accord well with our intuition. Observing these differences in realized rule of law levels leads to the next question we want to deal with: how to explain them?

The following section first addresses the question of whether the implementation of the rule of law should be considered as a concomitant effect of the adoption of political rights, which has already been studied extensively (see, e.g., Acemoglu and Robinson 2006; Gassebner et al. 2013; Gleditsch and Ward 2006), or whether it is a largely independent phenomenon.

3. Democracy, Regime Type, and the Rule of Law

If the rule of law was understood as a by-product that follows the extension of the voting franchise and other political rights, we could simply draw on the existing literature concerned with endogenous democracy to explain variation in the rule of law. This is certainly not the place to summarize the long and still ongoing debate about the relationship between the rule of law and democracy (see, e.g., Maravall and Przeworski 2003). However, it has become clear with the diffusion of democracy around the world that the rule of law does not always come on its heels. Zakaria (2003), for example, has condemned the detrimental track record of many “illiberal democracies”, which (in contrast to liberal democracies) mix elections with authoritarianism, often ignoring minority rights and failing to implement effective constraints on executive power. He further argues that most Western countries had adopted the rule of law long before

becoming democratic. This account of history and politics would suggest that the rule of law is a phenomenon worth studying independently of the political system of a country.

Mukand and Rodrik (2015) evaluate the arguments of Zakaria (2003) and others by formally modeling the emergence of liberal versus illiberal democracy. In their game-theoretical political economy model three factions (economic elite, majority and minority) are in conflict over the adoption of three sets of rights in the constitution (property rights, political rights, and civil rights). The economic elites prefer strong property rights in order to be shielded from expropriation by the majority. The majority favors extensive political rights, which would allow them to decide over the provision of public goods. The provision of public goods would be to the detriment of the minority, unless they are protected against discrimination via strong civil rights. This conception of civil rights, which Mukand and Rodrik link to liberalism, is closely aligned with our understanding of the rule of law. It should not come as a surprise that, according to their model, most of today's democracies are electoral, not liberal democracies. While democratization entails the exchange of political rights for property rights, this is not the case for civil rights. As the provision of civil rights is costly for the majority and not important for the economic elites, a political bargain between these two groups will tend to favor illiberal over liberal democracy. Liberal democracy would only emerge where the minority has relatively large bargaining power in the constitution-making process. Mukand and Rodrik point out that the distinction between both majority and minority (given that the latter is not identical to the economic elite) and the distinction between civil and political rights are neglected in conventional political economy models in the style of Acemoglu and Robinson (2006).

<< Figure 2: Democracy and Rule of Law >>

Figure 2 shows the bivariate relationships between our rule of law indicator and either the polity2 indicator, used to determine the level of democracy/autocracy by Marshall et al.

(2015), or the political rights indicator by Freedom House (2015). For both indicators we employ the mean value of the years since 2010. While there is a clear positive relationship between democracy and rule of law, correlation coefficients of 0.44 and 0.64 show that it is not very strong. However, both scatter plots show signs of right-censoring and the actual relationship might be moderately stronger than suggested by the correlation coefficients. The United Arab Emirates and particularly Singapore are clear outliers with much higher rule of law levels than their level of democracy would suggest. Mukand and Rodrik (2015) also name Singapore as a contemporary example for a liberal autocracy in which civil and property rights are well protected, but political rights are restricted. Interesting is also the fact that so-called "anocracies", which have a polity-score between -5 and +5, seem to perform worse than clear-cut autocracies, such as China, Belarus or Vietnam. Moreover, many democracies are comparable in their performance to anocracies and autocracies. But then again, there is a large group of democracies (mostly Western European) with excellent rule of law scores. Overall, the difference between democracies and the other countries is statistically significant.

<< Table 2: Political Regime Type and Rule of Law >>

Given that democracies exhibit higher rule of law scores, we might ask whether particular types of democracies and autocracies stand out in that respect. Differences between presidential and parliamentary democracies regarding aspects of the rule of law have, for example, been discussed without any clear conclusion (see Persson et al. 1997, 2000; Robinson and Torvik 2013). Table 2 describes rule of law levels for different regime types according to the latest classification by Cheibub et al. (2010). Comparing the rule of law levels for different types of democracies reveals a clear pattern. On average, parliamentary democracies allow for considerably higher rule of law scores than presidential democracies, with mixed systems standing in between. This is in line with Zakaria's

(2003:105) observations, assuming that presidential systems systematically lead to more centralization of political power. What is more surprising than the fact that parliamentary and mixed democracies exhibit more rule of law than presidential democracies, is that autocracies do not perform significantly worse than presidential democracies. Military dictatorships and monarchies show comparatively higher rule of law levels than presidential democracies, although the difference is not statistically significant.

In conclusion, the rule of law is associated with but not predetermined by a country's political institutions. In the next section, we inquire into what it is that determines the differences in rule of law levels we observe between countries if not the political system of a country.

4. Determinants of the Rule of Law

As a first step, we regress the rule of law indicator on a number of contemporary, but stable country characteristics that have been linked to the rule of law in the literature. It is well known that societies highly fractionalized by ethnicity, religion or language face a number of serious challenges – lower rule of law levels and more corruption being two of them (Easterly and Levine 1997). It is also often argued that the common law reduces legislators' discretionary power (Glaeser and Shleifer 2002). This would make the law more stable over time and, hence, more predictable for its users. Others argue that the judiciary is systematically more independent in common law countries (La Porta et al. 2004). Both aspects would lead to higher rule of law scores. Furthermore, resource-rich countries can be subject to a resource curse when they lack the rule of law (Mehlum et al. 2006). In line with this observation, politicians in resource-rich countries are incentivized to undermine the rule of law in order to be less constrained in the extraction of political rents (Gandhi and Przeworski 2006). A highly unequal distribution of income and wealth

makes the implementation of general legislation that applies irrelevant of personal status, and thus the realization of rule of law, less likely (Sunde et al. 2008). Finally, a number of traits of Islam, such as the differential treatment of men and women, heterosexuals and homosexuals, as well as believers and non-believers (e.g. Potrafke and Ursprung 2012; Berggren et al. 2015; Gutmann and Voigt 2015), are difficult to reconcile with the rule of law. Governments that are guided in their policy choices by Islamic doctrine should, hence, produce lower rule of law levels (Gutmann and Voigt 2015). Of course, most other religions also discriminate against minorities (Fox 2000), yet Islam is unique in its strong association between religion and state.

Data on ethnic fractionalization comes from Alesina et al. (2003). Common law countries are classified by La Porta et al. (1999). The data on natural resources has been collected and standardized by Haber and Menaldo (2011). Income inequality is measured as the Gini index by UNU-WIDER (2014). The influence of Islam on a country's political system is measured by Gutmann and Voigt's (2015) Islamic State Index. Table 3 displays OLS regression results with t-values based on the sandwich estimator of variance.

<< Table 3: Contemporary Correlates of the Rule of Law >>

Most of the included variables are fairly stable over time. Still, causal interpretations of coefficient estimates need to be treated with caution. Column 1 indicates that ethnic fractionalization, income inequality, and a strong influence of Islam on the political system are associated with lower rule of law levels. In contrast, income per capita is highly and positively correlated with the rule of law. However, Singapore and Norway are

significant outliers in this regression model.[12] After we exclude these two observations in column 2, only income per capita remains statistically significant with a very large standardized (or beta) coefficient of 0.86. Obviously, this short empirical exercise is burdened with problems of endogeneity. Nevertheless, we can draw some conclusions based on these results. First, contemporary country characteristics that are frequently mentioned as determinants of the rule of law are not significantly correlated with our index. Second, the rule of law is so closely related to long-run economic development (and thus modern-day income levels) that it might not be possible to understand the evolution of the rule of law without looking more closely into these long-run paths of development.

<< Figure 3: Income and Rule of Law >>

The fact that income and the rule of law are strongly associated with each other suggests at least one of three causal explanations, which are graphically illustrated in Figure 4. (1) The rule of law is a major driver of long-run economic development. This explanation would be in line with the role of inclusive institutions in the well-known settler mortality argument by Acemoglu et al. (2001). (2) Long-run economic development is a major driver of the level of the rule of law, as is analogously argued by Gundlach and Paldam (2009) for the case of public sector corruption or by Lipset (1959) in his modernization hypothesis for democracy (see also Acemoglu et al. 2009). (3) The rule of law and income could simply share one or more major determinants. Glaeser et al. (2004) have, for

12 Hansson (2009) has already identified Singapore as a strong outlier in his general-to-specific regression analysis of the rule of law.

example, argued that education is an important factor which promotes institutional improvements as well as economic growth.

In the following, we will use established fundamental causes of economic development to explain differences in rule of law levels across countries. If we find that all of these fundamental causes are associated in the same way with the rule of law as they are associated with income, we cannot rule out any of the three explanations above. However, such a result would be a natural consequence under the assumption that "explanation 2" is the most accurate description of the relationship between rule of law and income. If, in contrast, we find that the rule of law is only associated with some of the determinants of long-run development and the causal link between these fundamental causes and income runs according to theory via institutional quality, this would clearly support an important role of "explanation 1". In this sense, our analysis is not only relevant for understanding possible deep roots of the rule of law, but it might also shed light on one central transmission channel to long-run economic development. Similar questions have been addressed by Acemoglu et al. (2008, 2014) for the relationship between income and democracy.

In the following, we replicate the work by Spolaore and Wacziarg (2013, hereafter S&W), which provides a unified empirical framework for studying the roots of long-run economic development. We use the same estimation strategy, explanatory variables and data as S&W, but replace their dependent variable – log income per capita – with our indicator for the rule of law. To improve the comparability of our results with those of S&W, we also replicate their exact regression models, only reducing the number of observations to the sample covered by our rule of law indicator. These results can be found in Appendix C. The most important potential causes of current income levels include geography, the quality of institutions, and the ancestral composition of current

populations. As indicated above, our analysis can shed light on one of the key questions raised by S&W: "Through what specific mechanisms do long-term geographic and historical factors affect outcomes today?" (Spolaore and Wacziarg 2013:326).

<< Table 4: Geography and Rule of Law >>

We begin by regressing our rule of law variable on a number of geographic country characteristics: absolute latitude, the percentage of a country's land area located in tropical climates and two dummies for whether a country is landlocked or an island. Our coefficient estimates in Table 4 have the same sign as in the regressions by S&W. Absolute latitude is clearly correlated with higher income and more rule of law. The other factors are not always statistically significant. Nevertheless, tropical climate and being landlocked seem to be linked to worse institutional and economic outcomes, whereas islands have better rule of law and a higher income. These results confirm previous studies linking landlockedness to reduced rule of law (Carmignani 2015) and islands to higher levels of rule of law (Congdon Fors 2014).[13]

In columns 2 to 5 the sample excludes, in line with the approach of Olsson and Hibbs (2005), neo-European countries and countries whose current income is based primarily on extractive wealth. This increases the explanatory power of the geographic factors, as in the regressions on income. When the principal components constructed by Olsson and

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13 Of course, we could add further geographic traits, like country size, which Olsson and Hansson (2011) have related to reduced rule of law. However, we prefer to strictly follow the model by S&W, such that our results are comparable to their findings for income per capita levels. Another reason not to include country size is concern about endogeneity (Alesina 2003). Table 8, however, shows results for some additional candidate variables.

Hibbs are added stepwise in columns 3 to 5, we find the same results as for income per capita. Geographic conditions, not biological conditions seem to matter most for the rule of law. Judging from the coefficient of determination, geographic characteristics are equally good at explaining differences in the rule of law as in income levels.

The sample underlying column 6 includes only the Old World. This is the only model in which geographic characteristics are more closely related to income levels than to the rule of law. This observation is in line with the causal story told by Acemoglu et al. (2001) that in the New World (and other colonies) geography and other factors directly and strongly affected the adoption of inclusive versus extractive institutions, which then shaped long-run economic development. Diamond (1997) has further argued that biogeographic conditions matter mostly in the Old World, which we cannot confirm for the rule of law. This supports the finding of Olsson and Hibbs (2005) that biogeographic conditions had a strong direct effect on contemporary per capita income particularly in the Old World. Ashraf and Galor (2011) show that the effects of the biogeographic factors suggested by Diamond (1997) and tested by Olsson and Hibbs (2005) appear to operate through the legacy of an early transition to agriculture.

<< Table 5: Reversal of Fortune and Rule of Law >>

One of the facts used to underscore the crucial relevance of institutions leads to the so-called “reversal of fortune” argument. If geographic conditions have direct consequences, the same conditions should have been favorable for development hundreds of years ago that are also favorable today. But Acemoglu et al. (2002) demonstrate that former European colonies experienced a reversal of fortune after 1500. For the whole world, wealth in 1500 proxied by population density is uncorrelated with modern-day income levels. This masks two opposing effects in specific sub-samples. For countries that are not former colonies and those which are currently populated by more than 50 percent of

their indigenous population the relationship is clearly positive and statistically significant. For the rest of the world it is negative and statistically significant. According to Acemoglu et al. (2002) this reversal in incomes in former colonies reflects the introduction of extractive institutions by Europeans in highly populated, rich regions. Acemoglu et al. have already shown that this effect might have run through property rights protection and executive constraints. Not surprisingly, we find the same result for the rule of law in Table 5. The regression results for the rule of law are virtually identical to those of S&W with income per capita as the dependent variable.

<< Table 6: Europeans and Rule of Law >>

So far, the evidence seems to suggest that a direct effect of geography on income is more likely to have played a role in the Old World, whereas the fate of former colonies was dramatically altered by European settlers, who brought their inclusive institutions and human capital to hitherto less developed regions. In the next step, we follow the work of Easterly and Levine (2012) who show that a larger population share of descendants of Europeans is associated with higher income levels. Easterly and Levine contrast the institutions-view (Europeans brought inclusive institutions to their large-scale settlements and authoritarian extractive institutions to lands unsuitable for such settlements) with the human capital view (for generations European colonizers expedited human capital accumulation across the entire population). Although Easterly and Levine do not test the effect of Europeans on institutional quality, they interpret their empirical evidence as more in line with the view that the human capital of European settlers was more critical for economic development than were the institutions they brought with them.

The first column of Table 6 illustrates that the rule of law is indeed more developed where the share of descendants of Europeans in the population is larger. However, the result in column 2, after all countries with a population share of over 30 percent European

descendants are dropped from the regression sample, is markedly different from the result of S&W. When European descendants constitute only a small share of the population, their marginal effect on income is more than twice as large as for the sample including all countries. In contrast, we find no significant marginal effect of European descendants on the rule of law when they are a clear minority. In other words, S&W find a marginally decreasing effect on income, whereas our results suggest a marginally increasing effect of Europeans on the rule of law. This is not surprising, given that Europeans were likely to bring inclusive institutions specifically to sparsely populated regions where they were planning to settle in large numbers. The fact that countries less populated by European descendants profit even more from an increase in the number of descendants, in spite of not necessarily getting better institutions, might be more in line with the human capital argument of Glaeser et al. (2004) than with the institutions hypothesis of Acemoglu et al. (2001). This does not, however, rule out that both human capital and institutions played an important role and it can be shown that "the relationship between economic development today and the proportion of Europeans during colonization vanishes when controlling for a measure of current human capital or a measure of government quality, which are consistent with the views that human capital and political institutions are intermediating channels" (Easterly and Levine 2012:4). Sometimes, the rule of law has been criticized as an embodiment of Western thinking (Huntington 1993). What our results show is that there is, indeed, a relationship between Europeans and the degree to which the rule of law is realized.

Easterly and Levine (2012) are extending a model by Putterman and Weil (2010), which is interested in the historical legacy of populations from specific geographic locations (versus the direct effect of these locations). Columns 3 and 4 of Table 6 add the two indicators of early development by Putterman and Weil. The weighted number of years

that has passed since the introduction of agriculture in the regions from where the population originates has a negative effect on the rule of law that is only significant at the 10 percent level. In the original regression by S&W, an early Neolithic revolution had a significant positive effect on income that was transmitted through the population and not the location itself. However, the effect on income already becomes insignificant when the sample size is reduced to match our rule of law regression sample (see Table 6C in Appendix C).

Putterman and Weil (2010) find a trend in the results for the effect of state history on income that is comparable to that for the adoption of agriculture. State history only explains contemporary development when it is measured as the weighted average of the places in which the current residents' ancestors lived. Although the state history indicator can predict significant differences in income, even when the sample size is reduced, it is only significant at the 10 percent level once the rule of law is the dependent variable. In conclusion, the evidence is supportive of the rule of law being a potential link between an ancestry-adjusted long history of centralized government and contemporary income levels. Putterman and Weil (2010) themselves provide evidence that ancestry-adjusted state history increases executive constraints, property rights, government effectiveness and trust. However, the effect of an ancestry-adjusted early adoption of agriculture on the rule of law is if anything negative. This finding certainly deserves further inquiry, especially as it seems difficult to reconcile with the work by Ashraf and Galor (2011).

<< Table 7: Genetic Distance to the US and Rule of Law >>

Table 7 includes measures of "genetic distance to the US" into the baseline regression model. Such measures are reflective of the relatedness between the populations of two countries and thus indicate the length of time since these populations became separated from each other. It should be emphasized that empirical work using such data does not

offer evidence for an effect of specific genes, but only for the more general importance of intergenerationally transmitted traits, including cultural traits. Spolaore and Wacziarg (2009) have shown that genealogical relatedness facilitates the diffusion of economic development. This provides evidence either for a direct effect of intergenerationally transmitted traits or for the importance of barriers to communication and imitation across societies, which is the interpretation of the results preferred by Spolaore and Wacziarg (2009). These barriers can hinder the diffusion and adaption of technological and institutional innovations. Spolaore and Wacziarg show that genetic distance captures a broad set of characteristics, including language and religion. When we test the effect of the genetic distance to the US on the rule of law, we find positive coefficient estimates, but none of them are statistically significant. One possible interpretation of this result is that complex institutions like those required for the rule of law are significantly more difficult to adopt and imitate than technological innovations. The additional barriers raised by differences in traits across populations may simply not be sufficient to significantly shape the diffusion of institutional innovation. The inventions of the industrial revolution might therefore have more easily diffused than, for example, the ideas of liberalism, which have formed a basis for the rule of law. Another explanation for our null finding is that the US might not be the adequate technological frontier country from which the rule of law would diffuse. Our results to this point indicate that the diffusion of the rule of law presupposes population movements that transfer these institutions and it is not sufficient to have low cultural barriers between populations to encourage the adoption of these institutions.

<< Table 8: Geography and Rule of Law II >>

In Table 8, we extend upon the analysis of S&W by testing for the influence of three additional geographic country characteristics. First, we add an indicator by Nunn and

Puga (2012) for terrain ruggedness to the baseline model. S&W also discuss the underlying argument: While ruggedness has a negative global effect on income, it has a positive local effect in Africa, where it historically stood in the way of slave trade. We find a negative but insignificant effect of ruggedness on the rule of law in a sample of 94 countries. When we include an Africa dummy and its interaction term with ruggedness in column 2, we find that ruggedness is associated with lower rule of law, but only in Africa. The marginal effect calculated by the delta method is -0.06 and it is significant at the 5 percent level. Jimenez-Ayora and Ulubaşoğlu (2015) have also found only a weak association between ruggedness and rule of law. When we estimate the same model with income per capita as the dependent variable, we find no significant effect in Africa, but a negative effect outside Africa, although only significant at the 10 percent level.

Next, we add an indicator by Easterly (2007) for the abundance of land suitable for growing wheat relative to that suitable for growing sugarcane, which Bennett and Nikolaev (2015) argue is linked to income inequality via its effect on the rule of law. The effect on the rule of law in column 3 is indeed positive, but only significant at the 10 percent level. Finally, we control for ancestry-adjusted traditional plough use in agriculture, which we instrument by the suitability of geo-climatic conditions for growing plough-positive or plough-negative cereals. Alesina et al. (2013) have linked plough use to more conservative gender norms and less female participation in politics and the economy. We also find a negative association with rule of law levels in column 4, which is however not statistically significant. Taken together, our results in Table 8 do not hint at any important geographic determinants of the rule of law that would have been neglected in the study by S&W.

5. Conclusion and Outlook

Our brief and very general analysis of possible roots of the rule of law follows the empirical approach of Spolaore and Wacziarg (2013) closely. The results presented here already contain some interesting insights. Nevertheless, more research is warranted. We have, for example, not incorporated the potential role of culture for the adoption of the rule of law (see, e.g., Licht et al. 2007).

Considered as a whole, our results confirm some of the main findings in the deep roots of development literature (see, e.g., Ang 2013) and they shed some light on the rule of law as a transmission channel to economic growth. Geographical factors have an impact on the rule of law. However, where countries were colonized, a reversal of fortune took place and previously rich areas were given extractive institutions and only limited human capital, which led to their relative economic decline. Many of the results from the literature claiming that institutions matter can be confirmed. Europeans settled in large numbers in less densely populated areas and brought their human capital and inclusive institutions with them. In more densely populated areas, settlers did not develop large-scale settlements, but tended to install extractive institutions. The rule of law scores for these areas did not benefit from a larger number of Europeans, they did, however, benefit in terms of economic development. This suggests that both institutions (as argued by Acemoglu et al. 2001, 2002), and human capital (see Glaeser et al. 2004) have played a significant role in historical economic development.

Other factors, which have been important for historical economic development, are not associated with higher rule of law levels. The timing of the transition from a hunter-gatherer economy to agricultural and pastoral production and state antiquity are not related to contemporaneous rule of law levels. The genetic distance to the US, which is negatively associated with income (supposedly because it acts as a barrier to the diffusion

of innovation) is also unrelated to rule of law levels. Institutions and human capital, it seems, should be transmitted via population movements and cannot simply be copied. This has been proven in many unsuccessful attempts at institutional transplantation (see Berkowitz et al. 2003). Finally, the fact that the rule of law is only associated with those determinants of long-run development for which theory ascribes a significant role of institutions indicates that the rule of law does significantly contribute to economic development, nor is it only a consequence of high income levels.

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Appendix A: Classification of Rule of Law-Subcomponents

Type	Var. Name	Description
	Component 1	Universalizability, 14 items, $\alpha = 0.91$
E	ph_q10f_norm	In practice, public health regulations are sufficiently stable to permit small businesses to ascertain what conduct is permitted and prohibited.
E	lb_q21g_norm	In practice, labor regulations are sufficiently stable to permit small businesses to ascertain what conduct is permitted and prohibited.
E	cj_q28e_norm	In practice, criminal laws are sufficiently stable to permit small businesses to ascertain what conduct is permitted and prohibited.
E	cc_q30g_norm	In practice, commercial regulations are sufficiently stable to permit small businesses to ascertain what conduct is permitted and prohibited.
E	all_q33_norm	In practice, the local government provides easy-to-understand information on people's legal rights.
E	all_q34_norm	The basic laws are publicly available in all official languages.
E	all_q35_norm	In practice, the government strives to make the laws accessible in languages spoken by significant segments of the population, even if they are not "official" language.
E	all_q36_norm	In practice, national regulations are published on a timely basis.
E	all_q37_norm	In practice, administrative regulations can be obtained at little cost, such as by mail, or on-line.
E	all_q92_norm	In your opinion, how aware is the general population about the formal justice mechanisms through which grievances could be addressed?
E	cj_q21_norm	In your opinion, how aware is the general population about their legal rights in the event of arrest or interrogation?
G	q15c_norm	Could you please tell us how well or badly you think your local government is performing in the following procedures? Providing information in plain language about people's legal rights, so that everybody can understand them.
G	q38a_norm	In practice, the basic laws are explained in plain language, so that people can understand them.
G	q38b_norm	In practice, the basic laws are available in all official languages.
	Component 2	Checks on the Executive, 3 items, $\alpha = 0.79$
E	all_q1_norm	In practice, the chief executive rules without regard to legislative checks.
E	all_q2_norm	In practice, the government's power is not concentrated in one person, but is distributed among different independent branches, for instance the President or Prime Minister, the Congress or Legislative body, and the judges.
G	q9a_norm	Please assume that one day the President decides to adopt a policy that is clearly against the Constitution: How likely is the National Congress/Parliament to be able to stop the President's illegal actions?
	Component 3	Judicial Independence, 8 items, $\alpha = 0.95$
E	all_q3_norm	The government always obeys the decisions of the high courts, even when they disagree with these decisions.
E	all_q4_norm	In practice, the national courts are free of political influence in their application of power.
E	all_q5_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Lack of independence of the judiciary from the government's power.
E	all_q6_norm	Based on your experience, out of all the cases in which the government had an interest, in what percentage of them did the government exercise undue influence to affect the outcome of the case?

E	all_q7_norm	In practice, the local courts are free of political influence in their application of power.
E	cc_q23_norm	Please choose the statement that is closest to your views on how the judiciary operates in your country: (a) When legal questions or possible violations are raised, the judiciary reviews executive actions and uses its powers to declare government actions illegal or unconstitutional, (b) The judiciary reviews executive actions, but is unwilling to take on politically sensitive issues and/or is limited in its effectiveness, (c) The judiciary does not effectively review executive policy.
G	q9b_norm	Please assume that one day the President decides to adopt a policy that is clearly against the Constitution: How likely are the courts to be able to stop the President's illegal actions?
G	q10a_norm	Assume that a government officer makes a decision that is clearly illegal and unfair, and people complain against this decision before the judges. In practice, how likely is it that the judges are able to stop the illegal decision?
	Component 4	Judicial Accountability, 2 items, $\alpha = 0.78$
E	all_q38_norm	In practice, judicial decisions of the highest court are published on a timely basis.
E	all_q12_norm	In practice, members of the judiciary abusing their power are sanctioned for misconduct.
	Component 5	Prosecutorial Independence, 1 item
E	cj_q15i_norm	Please tell us how significant are the following problems for the criminal investigative services in the city where you live: Lack of independence of prosecutors.
	Component 6	Procedurally Fair Trials, 13 items, $\alpha = 0.92$
E	cj_q18a_norm	Based on your experience with common criminal cases during the last year, approximately what percentage of the suspects: Were in fact presumed innocent during the criminal investigation?
E	cj_q18b_norm	Based on your experience with common criminal cases during the last year, approximately what percentage of the suspects: Were in fact provided full access to the evidence used against them in court?
E	cj_q18c_norm	Based on your experience with common criminal cases during the last year, approximately what percentage of the suspects: Were in fact allowed to challenge the evidence used against them in court?
E	cj_q34c_norm	How likely is it that a political dissident is taken from his home to a detention center without any warrant of arrest?
E	cj_q34d_norm	How likely is it that the police search without warrant the house of a political dissident?
E	cj_q24a_norm	How likely is it that the police: Arbitrarily arrest a citizen without probable cause?
E	cj_q3a_norm	If the detained suspect requests access to legal counsel, how likely is it that he/she receives adequate legal counsel from a public defender: During police custody?
E	cj_q3b_norm	If the detained suspect requests access to legal counsel, how likely is it that he/she receives adequate legal counsel from a public defender: During pre-trial detention?
E	cj_q3c_norm	If the detained suspect requests access to legal counsel, how likely is it that he/she receives adequate legal counsel from a public defender: During trial?
E	cj_q4_norm	If the detained suspect does not speak any of the official languages of your country, in practice, how likely is it that he/she obtains access to an interpreter?
E	cj_q16a_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Excessive length and use of pre-trial detention.
E	cj_q16j_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Insufficient number of state-provided or pro-bono attorneys for poor criminal defendants.
E	cj_q16k_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Incompetence of state-provided or pro-bono attorneys for poor criminal defendants.
	Component 7	Procedures for Imprisonment, 3 items, $\alpha = 0.92$
E	cj_q6a_norm	How likely is it that the suspect remains in police custody without an indictment (or without formal charges) by the prosecutor, or by the competent judicial or administrative authority: For more than three months?

E	cj_q6b_norm	How likely is it that the suspect remains in police custody without an indictment (or without formal charges) by the prosecutor, or by the competent judicial or administrative authority: For more than one year?
E	cj_q6c_norm	How likely is it that the suspect remains in police custody without an indictment (or without formal charges) by the prosecutor, or by the competent judicial or administrative authority: For more than three years?
	Component 8	Basic Human Rights, 11 items, $\alpha = 0.95$
E	cj_q11a_norm	Assume that the police arrest a suspected member of a dangerous criminal organization. How likely is it that: The police inflict severe physical harm on the suspect during the interrogation?
E	cj_q11b_norm	Assume that the police arrest a suspected member of a dangerous criminal organization. How likely is it that: The suspect is killed by the police without trial.
E	cj_q1_norm	How likely is it that the police interrogators inflict minor physical harm on the detained suspect to admit the crime?
E	cj_q2_norm	How likely is it that the police interrogators inflict severe physical harm on the detained suspect to admit the crime?
E	cj_q24b_norm	How likely is it that the police: Use excessive force during arrests?
E	cj_q25d_norm	How likely are political dissidents to be secretly imprisoned or killed by agents of the state?
E	cj_q29c_norm	In practice, the reports issued by the National Human Rights Institution/ombudsman are taken seriously by the authorities, with negative findings drawing prompt corrective action.
E	cj_q17c_norm	Please tell us how significant are the following problems faced by correctional facilities in the city where you live: Physical abuse by guards and personnel.
E	cj_q17d_norm	Please tell us how significant are the following problems faced by correctional facilities in the city where you live: Physical abuse between inmates.
E	cj_q30_norm	Please choose the statement that is closest to your views on how the National Human Rights Institution (ombudsman) operates in practice in your country: (a) The institution is effective in investigating human rights violations, (b) The institution starts investigations into human rights violations, but is limited in its effectiveness. The institution may be slow or unwilling to take on politically sensitive issues, (c) The institution does not effectively investigate human rights violations, (d) There is no such institution in my country.
G	q37b_norm	Please tell me how often would you say that: The basic rights of suspects are respected by the police.
	Component 9	Corruption Free Judiciary, 10 items, $\alpha = 0.96$
E	cj_q19b_norm	Based on your experience with criminal cases decided by trial courts during the previous year, in approximately what percentage of cases showed that: The final decision was influenced by undue pressure or corruption.
E	cc_q26e_norm	How frequently do people have to pay bribes, informal payments, or other inducements to: Expedite a court process?
E	lb_q17c_norm	How frequently do people have to pay bribes, informal payments, or other inducements to: Obtain service of process in a labor law suit?
E	cj_q26b_norm	How much influence do criminal organizations, such as drug cartels or arms smugglers, have on the policies and actions of the following institutions of your country? Members of the courts.
E	all_q57_norm	In a case like this, how likely are the following people to request a bribe to perform their duties or to expedite the process? Judge or Magistrate.
E	all_q58_norm	In a case like this, how likely are the following people to request a bribe to perform their duties or to expedite the process? Court personnel.
E	cc_q24h_norm	Please tell us how serious the following problems are in civil and commercial courts in the city where you live? Corruption of judges and judicial officers.
E	cj_q16l_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Corruption of judges and judicial officers.
E	all_q60_norm	Please tell us how important are the following factors in influencing people's decisions on whether or not to go to court to resolve a dispute in the city where you live: Corruption of judges and judicial officers.
G	q18d_norm	How many of the following people do you think are involved in corrupt practices, or haven't you heard enough about them to say? Judges and Magistrates.

	Component 10	Corruption Free Law Enforcement, 12 items, α = 0.97
E	cj_q27a_norm	How frequently do the police officers and court officers working on criminal cases request or receive bribes to: Actually investigate a crime?
E	cj_q27b_norm	How frequently do the police officers and court officers working on criminal cases request or receive bribes to: Actually prosecute a criminal?
E	cj_q27d_norm	How frequently do the police officers and court officers working on criminal cases request or receive bribes to: Destroy or tamper with evidence?
E	cj_q25a_norm	How likely are local police officers to collect bribes from traders and small merchants, so that they can carry on their activity?
E	cj_q25b_norm	How likely are police to receive bribes from criminal organizations to turn a blind eye to their illegal activities?
E	cj_q25c_norm	How likely are the police to arrest innocent people and take them to court on false charges in order to solicit bribes or to fill a quota?
E	all_q61_norm	In a case like this, how likely are the following people to request a bribe to perform their duties or to expedite the process? Police or law enforcement officer.
E	cj_q15j_norm	Please tell us how significant are the following problems for the criminal investigative services in the city where you live: Corruption of investigators or judicial police.
E	cj_q15k_norm	Please tell us how significant are the following problems for the criminal investigative services in the city where you live: Corruption of prosecutors.
G	q18e_norm	How many of the following people do you think are involved in corrupt practices, or haven't you heard enough about them to say? The police.
G	q36e_norm	Do people in your neighborhood have to pay a bribe or other inducements for the following procedures or actions? To receive the services of the police.
G	q26a_norm	During the past three years, have you or anyone living in your household been stopped or detained by the police? Did you have to pay a bribe to the police officer to avoid a problem?
	Component 11	Discrimination Free Judiciary, 14 items, α = 0.93
E	cj_q12a_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A poor person?
E	cj_q12b_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A female?
E	cj_q12c_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A member of an ethnic minority?
E	cj_q12d_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A member of a religious minority?
E	cj_q12e_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A foreigner?
E	cj_q12f_norm	Imagine that the local police detain a person suspected of committing a crime. In your opinion, how likely is the detained person to be at a disadvantage during the criminal process because he/she is: A gay, lesbian, or transgender?
E	cj_q16p_norm	Please tell us how significant are the following problems faced by the criminal courts in the city where you live: Bias against marginalized people (discrimination based on social or economic status).
E	all_q76_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A poor person.
E	all_q77_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A female.
E	all_q78_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A member of an ethnic minority.
E	all_q79_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A member of a religious minority.

E	all_q80_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A foreigner.
E	all_q81_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: A homosexual.
E	all_q82_norm	In your opinion, how likely are the following criteria to put a person at a disadvantage before a civil or commercial trial court? The person is: Bias against marginalized people (discrimination based on social or economic status).

Appendix B: Rule of Law Scores

Country	ROL	Quality	Checks	Standards	Impartiality	Mean(Enf)
Afghanistan	0.330	0.389	0.311	0.370	0.134	0.272
Albania	0.452	0.458	0.382	0.623	0.336	0.447
Argentina	0.526	0.500	0.397	0.633	0.626	0.552
Australia	0.777	0.717	0.923	0.791	0.794	0.836
Austria	0.834	0.799	0.863	0.899	0.846	0.869
Bangladesh	0.361	0.376	0.373	0.412	0.252	0.346
Belarus	0.490	0.470	0.299	0.605	0.627	0.510
Belgium	0.770	0.687	0.842	0.863	0.853	0.853
Bolivia	0.352	0.379	0.219	0.467	0.293	0.326
Bosnia & Herzegovina	0.564	0.513	0.481	0.752	0.614	0.615
Botswana	0.588	0.556	0.648	0.600	0.611	0.620
Brazil	0.520	0.451	0.654	0.509	0.608	0.590
Bulgaria	0.493	0.444	0.494	0.616	0.517	0.542
Burkina Faso	0.381	0.337	0.268	0.469	0.537	0.425
Cambodia	0.368	0.395	0.217	0.546	0.262	0.342
Cameroon	0.342	0.361	0.210	0.416	0.346	0.324
Canada	0.794	0.774	0.852	0.788	0.803	0.815
Chile	0.692	0.634	0.740	0.748	0.765	0.751
China	0.531	0.617	0.355	0.494	0.488	0.445
Colombia	0.460	0.406	0.477	0.548	0.513	0.513
Cote d'Ivoire	0.343	0.272	0.341	0.447	0.458	0.415
Croatia	0.586	0.535	0.555	0.702	0.654	0.637
Czech Rep.	0.677	0.543	0.770	0.879	0.786	0.812
Denmark	0.855	0.781	0.902	0.943	0.942	0.929
Dominican Rep.	0.496	0.511	0.373	0.579	0.495	0.482
Ecuador	0.391	0.408	0.219	0.497	0.406	0.374
Egypt	0.423	0.432	0.439	0.358	0.445	0.414
El Salvador	0.424	0.369	0.432	0.501	0.500	0.478
Estonia	0.760	0.678	0.848	0.815	0.859	0.841
Ethiopia	0.370	0.353	0.324	0.454	0.384	0.388
Finland	0.862	0.793	0.903	0.935	0.954	0.931
France	0.706	0.631	0.734	0.772	0.836	0.781
Georgia	0.530	0.471	0.369	0.658	0.740	0.589
Germany	0.783	0.718	0.835	0.827	0.884	0.849
Ghana	0.508	0.467	0.604	0.568	0.475	0.549
Greece	0.561	0.454	0.647	0.656	0.697	0.667
Guatemala	0.415	0.405	0.386	0.485	0.403	0.425
Hong Kong	0.830	0.835	0.816	0.826	0.836	0.826
Hungary	0.550	0.527	0.508	0.605	0.608	0.573
India	0.462	0.443	0.561	0.483	0.399	0.481
Indonesia	0.481	0.507	0.510	0.495	0.361	0.455
Iran	0.390	0.388	0.347	0.353	0.476	0.392
Italy	0.615	0.475	0.715	0.794	0.752	0.754
Jamaica	0.489	0.427	0.586	0.523	0.544	0.551
Japan	0.789	0.785	0.779	0.763	0.835	0.793
Jordan	0.535	0.486	0.515	0.591	0.648	0.584
Kazakhstan	0.452	0.466	0.301	0.604	0.412	0.439
Kenya	0.381	0.348	0.481	0.442	0.318	0.414
Korea, South	0.798	0.779	0.766	0.852	0.835	0.818
Kyrgyzstan	0.444	0.469	0.405	0.551	0.299	0.418
Lebanon	0.528	0.492	0.554	0.629	0.511	0.565
Liberia	0.344	0.293	0.427	0.436	0.323	0.395
Macedonia	0.636	0.698	0.443	0.679	0.599	0.574
Madagascar	0.440	0.485	0.255	0.546	0.387	0.396
Malawi	0.431	0.383	0.443	0.485	0.508	0.479
Malaysia	0.586	0.593	0.517	0.616	0.602	0.578
Mexico	0.434	0.463	0.469	0.460	0.285	0.405
Moldova	0.424	0.456	0.352	0.500	0.322	0.392

Mongolia	0.438	0.369	0.428	0.560	0.535	0.508
Morocco	0.402	0.425	0.364	0.379	0.395	0.379
Myanmar	0.340	0.333	0.398	0.299	0.346	0.348
Nepal	0.460	0.414	0.525	0.589	0.405	0.506
Netherlands	0.826	0.769	0.865	0.872	0.911	0.883
New Zealand	0.839	0.828	0.837	0.855	0.854	0.849
Nicaragua	0.411	0.483	0.236	0.445	0.338	0.340
Nigeria	0.377	0.369	0.487	0.299	0.370	0.385
Norway	0.873	0.838	0.948	0.844	0.931	0.907
Pakistan	0.343	0.278	0.456	0.439	0.332	0.409
Panama	0.480	0.535	0.338	0.429	0.506	0.424
Peru	0.452	0.380	0.474	0.719	0.375	0.523
Philippines	0.481	0.500	0.522	0.454	0.411	0.463
Poland	0.650	0.543	0.703	0.777	0.790	0.757
Portugal	0.627	0.507	0.716	0.730	0.794	0.747
Romania	0.562	0.479	0.538	0.739	0.659	0.645
Russia	0.458	0.502	0.321	0.486	0.434	0.414
Senegal	0.426	0.378	0.440	0.505	0.477	0.474
Serbia	0.519	0.502	0.415	0.683	0.509	0.535
Sierra Leone	0.353	0.321	0.337	0.437	0.380	0.385
Singapore	0.795	0.733	0.812	0.860	0.898	0.857
Slovenia	0.698	0.671	0.589	0.859	0.725	0.724
South Africa	0.561	0.547	0.607	0.571	0.549	0.576
Spain	0.667	0.579	0.651	0.813	0.801	0.755
Sri Lanka	0.511	0.508	0.471	0.494	0.580	0.515
Sweden	0.856	0.803	0.873	0.932	0.922	0.909
Tanzania	0.393	0.313	0.492	0.544	0.386	0.474
Thailand	0.496	0.520	0.371	0.530	0.516	0.472
Tunisia	0.537	0.542	0.463	0.578	0.559	0.533
Turkey	0.494	0.457	0.373	0.622	0.595	0.530
Uganda	0.323	0.254	0.440	0.377	0.354	0.391
Ukraine	0.453	0.485	0.342	0.531	0.388	0.420
United Arab Emirates	0.638	0.579	0.625	0.723	0.746	0.698
United Kingdom	0.770	0.713	0.844	0.825	0.816	0.828
United States	0.693	0.651	0.779	0.698	0.727	0.735
Uruguay	0.681	0.668	0.684	0.642	0.757	0.695
Uzbekistan	0.423	0.458	0.318	0.462	0.383	0.388
Venezuela	0.269	0.337	0.138	0.153	0.312	0.201
Vietnam	0.484	0.481	0.384	0.591	0.485	0.487
Zambia	0.407	0.365	0.449	0.409	0.487	0.448
Zimbabwe	0.300	0.250	0.244	0.427	0.379	0.350

Appendix C: Replication of Spolaore and Wacziarg with Rule of Law-Country Sample.

Table 4C: Geography and Income

	(1)	(2)	(3)	(4)	(5)	(6)
Absolute Latitude	0.038***	0.048***				
	(5.52)	(6.38)				
Land Area in Tropics	–0.328	0.211	–0.425	–0.703*	–0.445	–0.316
	(–0.92)	(0.60)	(–1.28)	(–2.09)	(–1.32)	(–0.86)
Landlocked	–0.925***	–0.632*	–0.665*	–0.741*	–0.680*	–0.237
	(–4.09)	(–2.52)	(–2.44)	(–2.58)	(–2.47)	(–0.94)
Island	0.473	0.328	0.809*	0.449	0.862*	1.275**
	(1.45)	(0.86)	(2.49)	(1.32)	(2.35)	(3.42)
Geographic conditions			**0.618*** **		**0.702*** **	**0.843*** **
			(4.64)		**(3.48)**	**(4.32)**
Biological conditions				0.480**	–0.099	0.101
				(3.29)	(–0.52)	(0.49)
Constant	7.972***	7.534***	8.837***	9.063***	8.835***	8.315***
	(24.63)	(23.10)	(47.48)	(50.38)	(47.90)	(41.87)
Beta (bold variable)			0.60		0.69	0.74
Observations	94	67	67	67	67	53
Adj.-R^2	0.51	0.58	0.51	0.44	0.51	0.68

Note: Replication of "Table 1" in Spolaore and Wacziarg (2013) with reduced sample size, *** p<0.001, ** p<0.01, * p<0.05.

Table 5C: Reversal of Fortune

	(1) Whole World	(2) Europe Only	(3) Former Europ. Colony	(4) Not Former Europ. Colony	(5) Non-Indig.	(6) Indig.	(7) 3 + 5	(8) 3 + 6
	Panel A: with European countries (only displayed when different from bottom panel)							
Log Population	–0.003	0.124		0.270*		0.299**		
Density in 1500	(–0.04)	(1.12)		(2.31)		(2.67)		
Beta	–0.00	0.23		0.35		0.31		
Observations	95	27	52	43	18	77	17	35
R^2	0.00	0.05		0.12		0.10		
	Panel B: without European countries							
Log Population	–0.259**	n/a	–0.398***	0.222	–0.334**	0.080	–0.317**	–0.045
Density in 1500	(–3.11)		(–7.19)	(1.08)	(–3.73)	(0.57)	(–3.11)	(–0.38)
Beta	–0.37		–0.60	0.25	–0.62	0.09	–0.58	–0.06
Observations	68	0	52	16	18	50	17	35
R^2	0.14		0.36	0.06	0.38	0.01	0.34	0.00

Note: Replication of "Table 3" in Spolaore and Wacziarg (2013) with reduced sample size, *** p<0.001, ** p<0.01, * p<0.05.

Table 6C: Europeans and Income

	(1)	(2)	(3)	(4)
Absolute Latitude	0.012	0.013	0.011	0.012
	(1.62)	(1.18)	(1.52)	(1.72)
Land Area in Tropics	–0.691*	–0.959	–0.645	–0.284
	(–2.07)	(–2.02)	(–1.90)	(–0.97)
Landlocked	–0.816***	–1.075***	–0.779***	–0.591**
	(–4.18)	(–4.27)	(–3.66)	(–2.96)
Island	0.637*	0.879	0.660*	0.575*
	(2.02)	(1.84)	(2.19)	(2.11)
Share of Descendants of Eur.	**1.150*** **	**2.768** **	1.147***	1.258***
	(4.96)	**(3.44)**	(4.86)	(5.82)
Ancestry-adj. Years of Agric.			**0.033**	
			(0.70)	
Ancestry-adj. State History				**1.173***
				(2.63)
Constant	8.322***	8.349***	8.138***	7.424***
	(27.99)	(19.17)	(20.34)	(19.30)
Beta (bold variable)	0.45	0.20	0.06	0.21
Observations	94	49	94	91
Adj.-R^2	0.60	0.40	0.60	0.67

Note: Replication of "Table 6" in Spolaore and Wacziarg (2013) with reduced sample size, *** p<0.001, ** p<0.01, * p<0.05.

Table 7C: Genetic Distance to the US and Income

	(1)	(2)	(3)
Absolute Latitude	0.031***	0.028**	0.009
	(4.53)	(3.36)	(1.23)
Land Area in Tropics	–0.455	–0.368	–0.678*
	(–1.33)	(–1.04)	(–2.05)
Landlocked	–0.816***	–0.737**	–0.741***
	(–3.40)	(–2.97)	(–3.43)
Island	0.484	0.513	0.642*
	(1.59)	(1.60)	(2.03)
Genetic Distance to US 1500	**–3.906****		
	(–3.14)		
Genetic Distance to US current		**–5.431***	**–2.429**
		(–2.29)	**(–1.03)**
Share of Descendants of Eur.			1.053***
			(4.11)
Constant	8.611***	8.712***	8.623***
	(23.70)	(18.57)	(20.01)
Beta (bold variable)	–0.22	–0.24	–0.11
Observations	94	94	94
Adj.-R^2	0.55	0.54	0.61

Note: Replication of "Table 7" in Spolaore and Wacziarg (2013) with reduced sample size, *** p<0.001, ** p<0.01, * p<0.05.

Table 8C: Geography and Income II

	(1)	(2)	(3)	(4)	(5)
Absolute Latitude	0.037***	0.019*	0.036***	0.039***	0.040***
	(5.18)	(2.31)	(5.47)	(4.93)	(3.62)
Land Area in Tropics	–0.379	–0.795*	0.009	–0.331	–0.336
	(–0.98)	(–2.12)	(0.03)	(–0.92)	(–0.96)
Landlocked	–0.925***	–0.812***	–0.701***	–0.930***	–0.939***
	(–4.09)	(–3.43)	(–3.63)	(–3.98)	(–4.36)
Island	0.493	0.378	0.447	0.477	0.486
	(1.47)	(1.50)	(1.40)	(1.41)	(1.74)
Ruggedness	**–0.046**	–0.168			
	(–0.57)	(–1.93)			
Africa		–1.115**			
		(–3.25)			
Ruggedness × Africa		0.124			
		(0.50)			
Wheat/Sugar			**0.825**		
			(1.75)		
Plough Use				**–0.041**	**–0.119**
				(–0.16)	**(–0.24)**
Constant	8.057***	9.095***	7.846***	7.978***	7.991***
	(20.62)	(20.03)	(25.67)	(24.19)	(24.06)
Beta (bold variable)	–0.04		0.16	–0.02	–0.05
Observations	94	94	84	94	94
Adj.-R^2	0.51	0.59	0.55	0.51	0.51

Note: Columns 1 to 4: OLS coefficient estimates, column 5 instrumental variable regression coefficient estimates with ethnic groups' geo-climatic conditions for growing plough-positive and plough-negative cereals as instruments for historical plough use, t-values in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

Table 1: The Rule of Law and Its Main Dimensions

	(1)	(2)	(3)	(4)	(5)	(6)
(1) Rule of Law	1					
(2) Universalizability	0.96	1				
(3) Checks and Balances	0.91	0.79	1			
(4) Standards in Law Enforcement	0.92	0.82	0.82	1		
(5) Impartiality in Law Enforcement	0.94	0.83	0.86	0.88	1	
(6) Rule of Law (World Bank)	0.95	0.87	0.92	0.86	0.92	1

Note: N=99, Pearson correlation coefficients, all correlations significant with $p<0.001$.

Table 2: Political Regime Type and Rule of Law

Variable	Obs	Mean	SD	Min	Max	Two-sample t-test *
Democracy	68	0.57	0.16	0.27	0.87	
Autocracy	30	0.45	0.11	0.30	0.79	t = –3.48, p = 0.00
Parliamentary Democracy	26	0.66	0.16	0.34	0.87	t = 4.52, p = 0.00
Mixed Democracy	16	0.58	0.14	0.43	0.86	t = 2.44, p = 0.02
Presidential Democracy	26	0.48	0.12	0.27	0.80	
Civil Autocracy	19	0.43	0.09	0.30	0.59	t = 1.50, p = 0.14
Military Autocracy	8	0.50	0.15	0.34	0.79	t = –0.44, p = 0.66
Monarchy	3	0.53	0.12	0.40	0.64	t = –0.67, p = 0.51
All Countries	98	0.53	0.16	0.27	0.87	

* Two-sample t-test with equal variances against the mean of "Democracy" or "Presidential Democracy".

Table 3: Contemporary Correlates of the Rule of Law

	(1)	Beta	(2)	Beta
Ethnic Fractionalization	–0.079*	–0.13	–0.051	–0.08
	(–2.05)		(–1.33)	
Common Law	0.011	0.03	0.025	0.07
	(0.54)		(1.26)	
Resource Rents per capita	–0.007	–0.07	–0.043	–0.15
	(–1.40)		(–1.83)	
Gini Index	–0.254*	–0.13	–0.126	–0.07
	(–2.02)		(–1.13)	
Islamic State Index	–0.014*	–0.11	–0.009	–0.08
	(–2.32)		(–1.62)	
Income per capita	0.008***	0.75	0.010***	0.86
	(6.60)		(8.98)	
Constant	0.550***		0.459***	
	(8.50)		(8.30)	
Singapore and Norway excluded	NO		YES	
N	91		89	
R^2	0.79		0.81	

Note: OLS coefficient estimates, t-values in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

Table 4: Geography and Rule of Law

	(1)	(2)	(3)	(4)	(5)	(6)
Absolute Latitude	0.006***	0.007***				
	(5.08)	(6.85)				
Land Area in Tropics	–0.048	0.022	–0.092*	–0.151***	–0.103*	–0.092
	(–1.05)	(0.46)	(–2.20)	(–3.75)	(–2.51)	(–1.93)
Landlocked	–0.094**	–0.042	–0.054	–0.074	–0.062	–0.030
	(–3.04)	(–1.15)	(–1.51)	(–1.86)	(–1.71)	(–0.72)
Island	0.110***	0.079*	0.148***	0.101***	0.178***	0.217***
	(3.58)	(2.24)	(4.72)	(3.60)	(4.38)	(4.26)
Geographic conditions			**0.085*** **		**0.132*** **	**0.141*** **
			(4.72)		**(4.11)**	**(3.99)**
Biological conditions				0.053*	–0.056	–0.044
				(2.55)	(–1.78)	(–1.30)
Constant	0.388***	0.323***	0.532***	0.574***	0.531***	0.497***
	(8.45)	(6.92)	(20.45)	(21.79)	(22.33)	(16.62)
Beta (bold variable)			0.58		0.90	0.90
Observations	94	67	67	67	67	53
Adj.-R^2	0.54	0.63	0.51	0.41	0.53	0.54

Note: OLS coefficient estimates, t-values in parentheses, independent variables analogous to "Table 1" in Spolaore and Wacziarg (2013), columns 2 to 5 exclude the neo-European countries Australia, Canada, New Zealand and the US as well as countries whose current income is based primarily on extractive institutions, column 6 restricts the sample to the Old World, i.e. all countries except the Americas and Oceania, "geographic conditions" is the first principal component of the number of annual or perennial wild grasses and the number of domesticable big mammals, "biological conditions" is the first principal component of absolute latitude, climate suitability to agriculture, rate of East-West orientation, and size of landmass in millions of km^2, *** $p<0.001$, ** $p<0.01$, * $p<0.05$.

Table 5: Reversal of Fortune and Rule of Law

	(1) Whole World	(2) Europe Only	(3) Former Europ. Colony	(4) Not Former Europ. Colony	(5) Non-Indig.	(6) Indig.	(7) 3 + 5	(8) 3 + 6
	Panel A: with European countries (only when different from bottom panel)							
Log Population	0.004	0.016		0.045*		0.045*		
Density in 1500	(0.30)	(0.54)		(2.20)		(2.63)		
Beta	0.04	0.14		0.37		0.35		
Observations	95	27	52	43	18	77	17	35
R^2	0.00	0.02		0.14		0.12		
	Panel B: without European countries							
Log Population	–0.029*	n/a	–0.050***	0.053	–0.053**	0.021	–0.056**	–0.005
Density in 1500	(–2.13)		(–5.53)	(2.12)	(–3.70)	(1.07)	(–3.48)	(–0.38)
Beta	–0.34		–0.59	0.52	–0.50	0.22	–0.50	–0.07
Observations	68	0	52	16	18	50	17	35
R^2	0.11		0.35	0.27	0.25	0.05	0.26	0.01

Note: OLS coefficient estimates, t-values in parentheses, independent variables analogous to "Table 3" in Spolaore and Wacziarg (2013), *** p<0.001, ** p<0.01, * p<0.05.

Table 6: Europeans and Rule of Law

	(1)	(2)	(3)	(4)
Absolute Latitude	0.003*	0.001	0.003**	0.003*
	(2.55)	(1.15)	(2.73)	(2.51)
Land Area in Tropics	–0.081	–0.117**	–0.097*	–0.054
	(–1.93)	(–2.82)	(–2.30)	(–1.23)
Landlocked	–0.084**	–0.086**	–0.097**	–0.065*
	(–2.91)	(–3.06)	(–3.19)	(–2.22)
Island	0.125***	0.130**	0.117***	0.123***
	(4.15)	(3.30)	(3.68)	(4.34)
Share of Descendants of Eur.	**0.105****	**–0.021**	0.106**	0.113**
	(2.81)	**(–0.22)**	(2.96)	(3.04)
Ancestry-adj. Years of Agric.			**–0.011**	
			(–1.83)	
Ancestry-adj. State History				**0.105**
				(1.83)
Constant	0.420***	0.479***	0.482***	0.343***
	(9.82)	(12.60)	(9.51)	(6.38)
Beta (bold variable)	0.29	–0.01	–0.14	0.14
Observations	94	49	94	91
Adj.-R^2	0.58	0.37	0.587	0.59

Note: OLS coefficient estimates, t-values in parentheses, independent variables analogous to "Table 6" in Spolaore and Wacziarg (2013), results in column 2 based on sample with share of descendants smaller 30 percent, *** p<0.001, ** p<0.01, * p<0.05.

Table 7: Genetic Distance to the US and Rule of Law

	(1)	(2)	(3)
Absolute Latitude	0.006***	0.006***	0.004**
	(4.89)	(4.37)	(2.69)
Land Area in Tropics	–0.046	–0.048	–0.083*
	(–0.99)	(–1.04)	(–1.99)
Landlocked	–0.096**	–0.095**	–0.095**
	(–3.11)	(–2.80)	(–3.09)
Island	0.110***	0.110***	0.124***
	(3.55)	(3.57)	(4.16)
Genetic Distance to US 1500	**0.070**		
	(0.49)		
Genetic Distance to US current		**0.025**	**0.364**
		(0.08)	**(1.30)**
Share of Descendants of Eur.			0.119**
			(3.27)
Constant	0.377***	0.385***	0.375***
	(6.91)	(5.89)	(6.44)
Beta (bold variable)	0.03	0.01	0.11
Observations	94	94	94
Adj.-R^2	0.54	0.53	0.58

Note: OLS coefficient estimates, t-values in parentheses, independent variables analogous to "Table 7" in Spolaore and Wacziarg (2013), *** p<0.001, ** p<0.01, * p<0.05.

Table 8: Geography and Rule of Law II

	(1)	(2)	(3)	(4)	(5)
Absolute Latitude	0.005***	0.005***	0.005***	0.006***	0.007***
	(4.84)	(3.55)	(4.14)	(4.86)	(4.55)
Land Area in Tropics	–0.062	–0.085	–0.030	–0.050	–0.053
	(–1.27)	(–1.61)	(–0.59)	(–1.10)	(–1.12)
Landlocked	–0.094**	–0.092**	–0.087**	–0.097**	–0.103***
	(–2.94)	(–2.85)	(–2.73)	(–3.06)	(–3.54)
Island	0.116***	0.117***	0.113***	0.113***	0.118**
	(3.66)	(4.04)	(3.70)	(3.51)	(3.13)
Ruggedness	**–0.012**	–0.013			
	(–1.02)	(–0.96)			
Africa		0.008			
		(0.20)			
Ruggedness × Africa		–0.050			
		(–1.56)			
Wheat/Sugar			**0.132**		
			(1.68)		
Plough Use				**–0.026**	**–0.075**
				(–0.79)	**(–1.10)**
Constant	0.411***	0.444***	0.390***	0.392***	0.400***
	(7.68)	(6.56)	(8.23)	(8.53)	(8.91)
Beta (bold variable)	–0.08		0.17	–0.07	–0.21
Observations	94	94	84	94	94
Adj.-R^2	0.54	0.54	0.57	0.54	0.53

Note: Columns 1 to 4: OLS coefficient estimates, column 5 instrumental variable regression coefficient estimates with ethnic groups' geo-climatic conditions for growing plough-positive and plough-negative cereals as instruments for historical plough use, t-values in parentheses, *** p<0.001, ** p<0.01, * p<0.05.

Figure 2: Democracy and Rule of Law

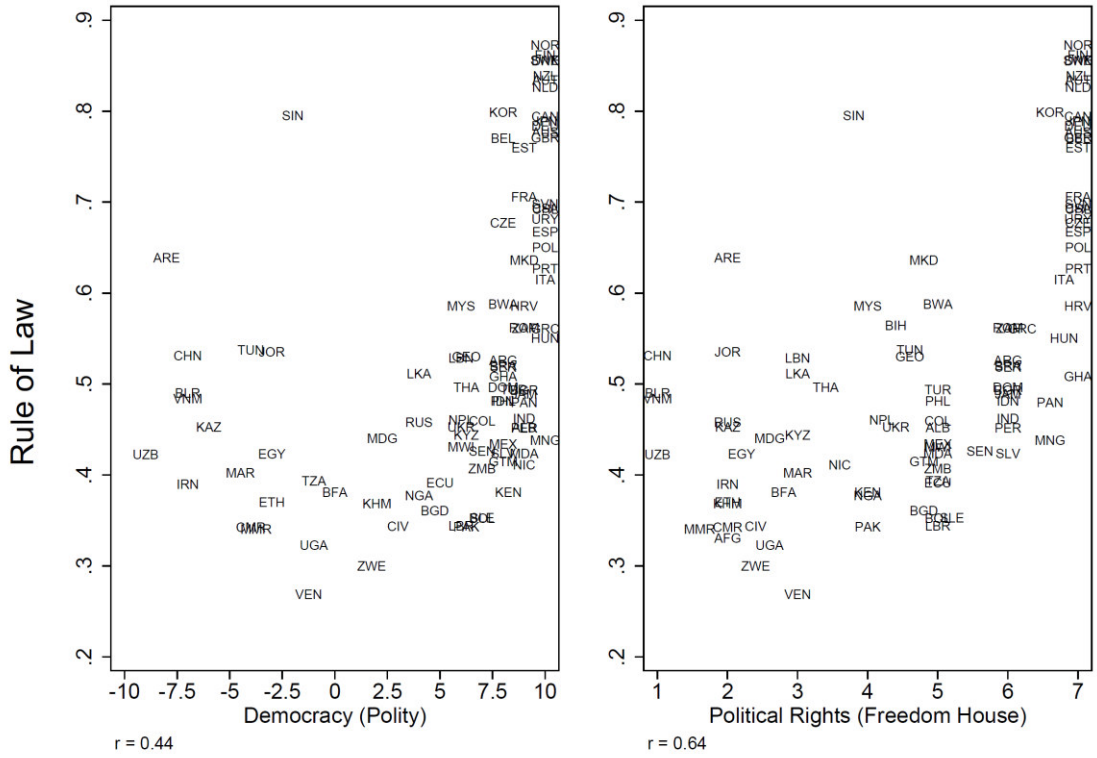

Figure 3: Income and Rule of Law